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**QUALITATIVE PM<sub>10</sub> AND PM<sub>2.5</sub> ASSESSMENT  
for the  
Interstate 5 Widening Project from  
SR-73 to El Toro Road**

**EA: 0K0200  
12-ORA-5 KP 20.0/30.4 (PM 12.4/18.9)**

**Cities of Lake Forest, Laguna Hills, Laguna Woods, Mission Viejo, and  
Laguna Niguel**

**County of Orange, State of California**

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October 19, 2012

JN 10-108022

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## 1.0 INTRODUCTION

This project-level particulate matter impact assessment is prepared in response to the United States Environmental Protection Agency's (EPA) requirement for particulate matter (particulate matter of diameter less than or equal to 10 microns [ $PM_{10}$ ] and particulate matter of diameter less than or equal to 2.5 microns [ $PM_{2.5}$ ]) hot-spot analysis, as specified in its March 10, 2006 *Final Transportation Conformity Rule* (71 FR 12468). The analysis was conducted following the procedures and methodology provided in the document *Transportation Conformity Guidance for Qualitative Hot-Spot Analyses in  $PM_{2.5}$  and  $PM_{10}$  Nonattainment and Maintenance Areas* (Guidance), developed by the EPA and the Federal Highway Administration (FHWA).<sup>1</sup>

The proposed project is included in the Southern California Association of Governments (SCAG) *2012-2035 Regional Transportation Plan/Sustainable Communities Strategy* (RTP) (RTP ID 2M0730) and the SCAG 2011 Federal Transportation Improvement Program (FTIP) (FTIP ID ORA111801). The 2011 FTIP was adopted by SCAG on September 2, 2010, and FHWA approved the RTP on December 14, 2010. The financially constrained 2012 RTP was found to conform by FHWA and the Federal Transit Administration (FTA) on June 5, 2012. Refer to Appendix A (RTP and FTIP Documentation) for documentation from the RTP and the FTIP.

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<sup>1</sup> The EPA released updated guidance documents for completing quantitative particulate matter ( $PM_{2.5}$  and  $PM_{10}$ ) hot-spot analyses on December 20, 2010 (75 FR 79370). There is a 2-year grace period before use of the new quantitative particulate matter hot-spot guidance is required for project-level particulate matter conformity determinations. Until December 20, 2012, project-level conformity determinations made using the 2006 qualitative guidance remain appropriate.

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## **2.0 PROJECT DESCRIPTION**

### **2.1 PROJECT LOCATION**

The proposed project is located within the cities of Laguna Hills, Laguna Niguel, Laguna Woods, Lake Forest, and Mission Viejo within the County of Orange, State of California; refer to Figure 1 (Project Location and Index Map). The proposed project's boundaries are from Post Mile (PM) 12.4 to PM 18.9. The total distance of the proposed project is approximately 6.5 miles.

### **2.2 PROJECT CHARACTERISTICS**

The Orange County Transportation Authority (OCTA), in cooperation with the California Department of Transportation (Caltrans), the City of Lake Forest, the City of Laguna Hills, the City of Laguna Niguel, and the City of Mission Viejo, is proposing to widen Interstate 5 (I-5) between State Route 73 (SR-73) and El Toro Road. The project objectives are to maximize overall performance within the project limits; reduce congestion on I-5 within the project limits; provide intermittent auxiliary lanes, where needed, to relieve congestion at diverge and merge locations; minimize right-of-way acquisition; and relieve congestion within interchange areas, on- and off-ramps, and local intersections. The project limits on I-5 extend from 0.5 mile (mi) south of the SR-73 interchange (PM 12.4) to 0.2 mi north of the El Toro Road Undercrossing (UC) (PM 18.9). The proposed project will add general purpose lanes in each direction on I-5 between Avery Parkway and Alicia Parkway, extend the 2<sup>nd</sup> High Occupancy Vehicle (HOV) lane from Alicia Parkway to El Toro Road, reestablish existing auxiliary lanes and construct new auxiliary lanes, and improve several existing on- and off-ramps.

Three alternatives, including the No Build Alternative, will be analyzed as a part of the Draft Initial Study/Environmental Assessment (IS/EA). The project alternatives are described below.

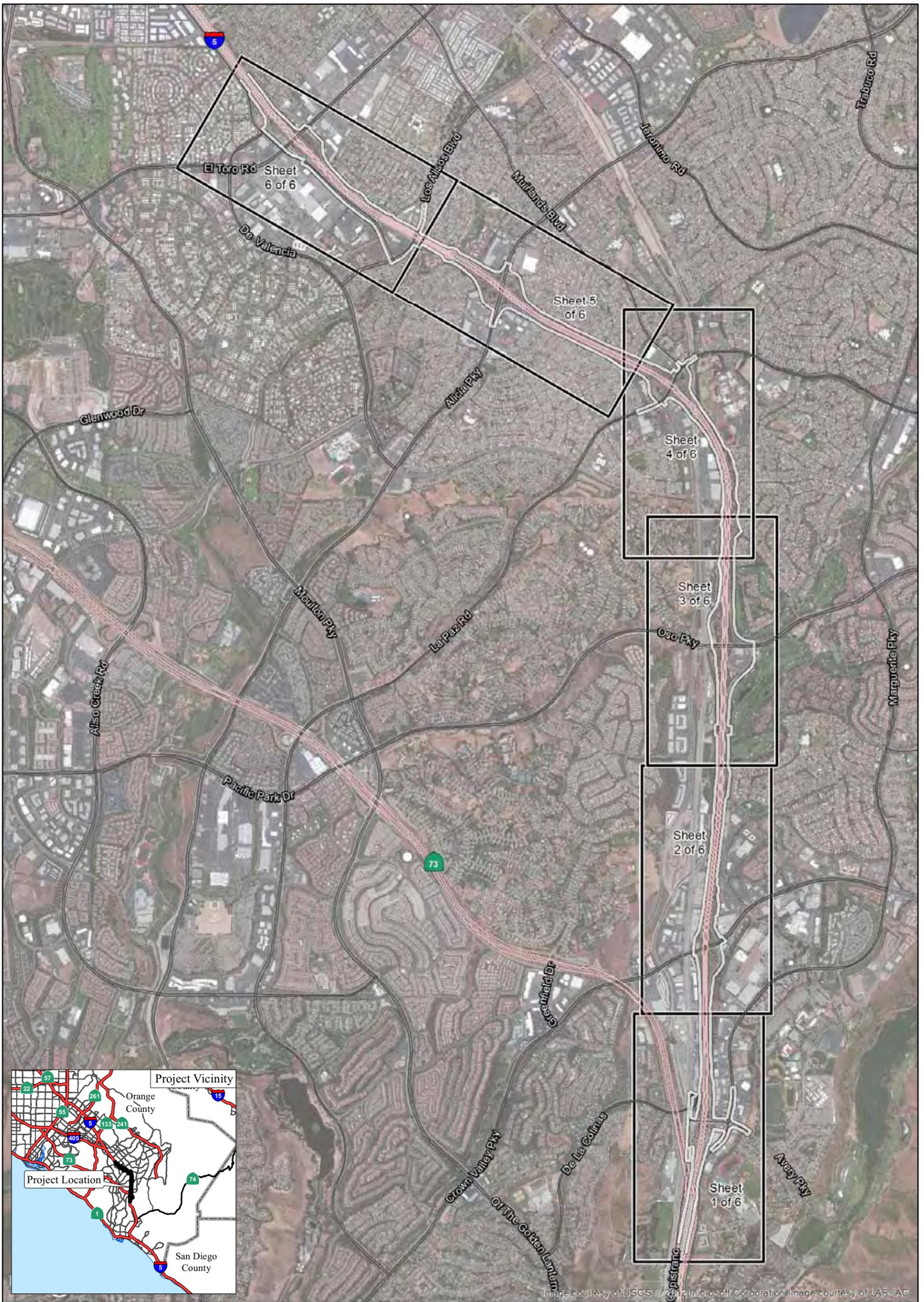
#### **Alternative 1 – No Build**

The no build alternative proposes no improvements to I-5, maintaining the existing four general purpose lanes and one HOV lane throughout the project limits in the northbound (NB) and southbound (SB) directions. All freeway facilities would remain as is, with the exception of proposed projects that are under development or currently in construction.

#### **Alternative 2**

Alternative 2 proposes to remove the existing I-5 paved shoulders and construct new traveled way and new shoulder pavement to the outside of the NB and SB lanes to accommodate one additional general purpose lane from Avery Parkway to Alicia Parkway; refer to Figure 2 (Alternative 2). Full standard widths are proposed, including a 10-foot inside shoulder, 12-foot HOV lane, five 12-foot general purpose lanes, and a 10-foot outside shoulder throughout the majority of the project limits. No buffer is proposed between the HOV lane and general purpose lanes, which will accommodate continuous access throughout the project limits.

This alternative also proposes the extension of the second HOV lane from the Alicia Parkway interchange area to where it currently terminates at the El Toro Road UC. In this section, full standard widths are proposed as well. The centerline of I-5 is proposed to be shifted to the west in this area to accommodate the widening, which requires minor realignment of Avenida de la Carlota.



LSA

LEGEND

— Maximum Disturbance Limits  
(for Alternative 2 & 3)

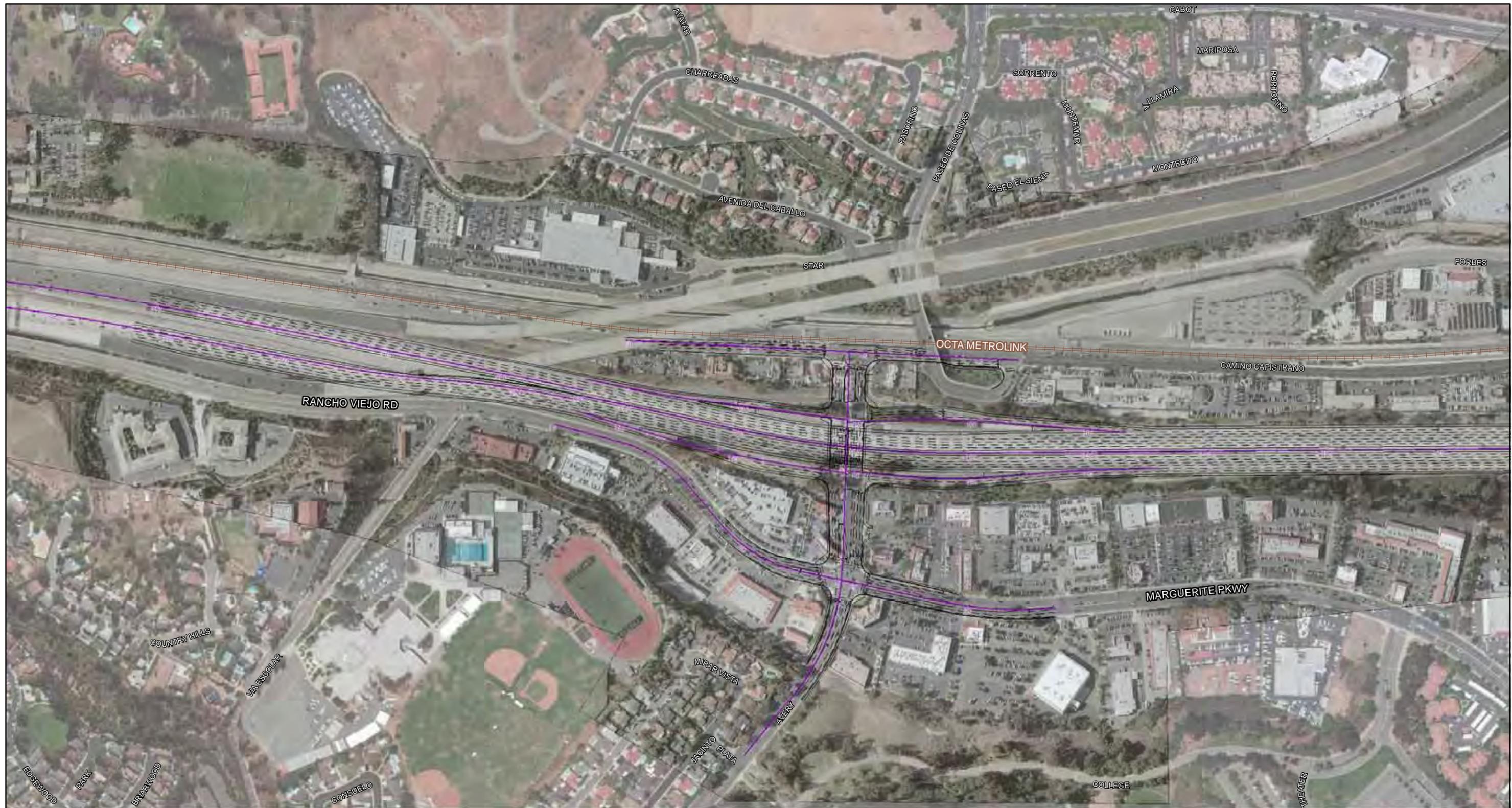
FIGURE 1



SOURCE: Bing Maps (c.2008)

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I-5 Widening Project: SR-73 to El Toro Road  
Project Location and Index Map



LEGEND

Alternative 2

— Proposed Geometrics

— Station Line



SOURCE: Bing Maps (c.2008) and RBF (1/2012); TranSystems (3/13/2012, 6/26/2012, 7/16/2012)

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FIGURE 2  
Sheet 1 of 6

I-5 Widening Project: SR-73 to El Toro Road  
Alternative 2

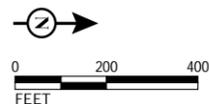


LEGEND

Alternative 2

— Proposed Geometrics

— Station Line



SOURCE: Bing Maps (c.2008) and RBF (1/2012); TranSystems (3/13/2012, 6/26/2012, 7/16/2012)  
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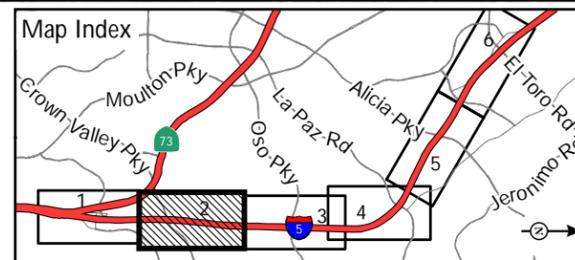


FIGURE 2  
 Sheet 2 of 6

I-5 Widening Project: SR-73 to El Toro Road  
 Alternative 2

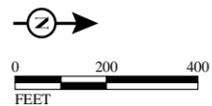


LEGEND

Alternative 2

— Proposed Geometrics

— Station Line



SOURCE: Bing Maps (c.2008) and RBF (1/2012); TranSystems (3/13/2012, 6/26/2012, 7/16/2012)  
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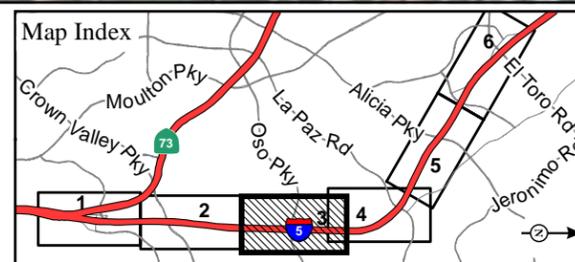
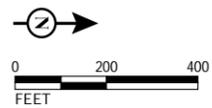


FIGURE 2  
 Sheet 3 of 6

I-5 Widening Project: SR-73 to El Toro Road  
 Alternative 2



- LEGEND
- Alternative 2
  - Proposed Geometrics
  - Station Line



SOURCE: Bing Maps (c.2008) and RBF (1/2012); TranSystems (3/13/2012, 6/26/2012, 7/16/2012)  
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FIGURE 2  
 Sheet 4 of 6

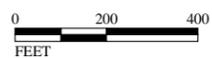
I-5 Widening Project: SR-73 to El Toro Road  
 Alternative 2



LEGEND

Alternative 2

- Proposed Geometrics
- Station Line



SOURCE: Bing Maps (c.2008) and RBF (1/2012); TranSystems (3/13/2012, 6/26/2012, 7/16/2012)  
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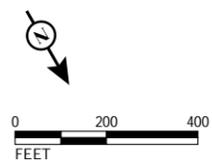


FIGURE 2  
 Sheet 5 of 6

I-5 Widening Project: SR-73 to El Toro Road  
 Alternative 2



- LEGEND
- Alternative 2
  - Proposed Geometrics
  - Station Line



SOURCE: Bing Maps (c.2008) and RBF (1/2012); TranSystems (3/13/2012, 6/26/2012, 7/16/2012)  
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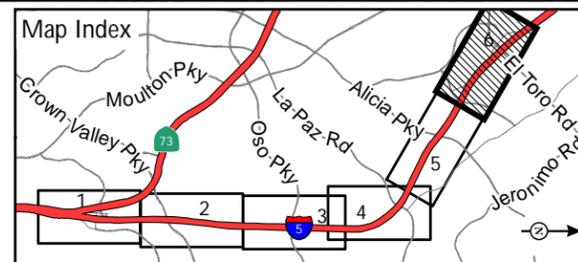


FIGURE 2  
 Sheet 6 of 6

I-5 Widening Project: SR-73 to El Toro Road  
 Alternative 2

### *Auxiliary Lanes*

Existing auxiliary lanes through the project limits are proposed to be reestablished and new auxiliary lanes will be constructed at the following locations:

- To Avery Parkway NB off-ramp.
- Between Oso Parkway NB on-ramp and La Paz Road NB off-ramp.
- Between La Paz Road NB on-ramp and Alicia Parkway NB off-ramp.
- Between Oso Parkway SB on-ramp and Crown Valley Parkway SB off-ramp (existing auxiliary lane is not continuous), as well as add a second auxiliary lane (for 1,500 feet) to Crown Valley Parkway SB off-ramp.
- Between La Paz Road SB on-ramp and Oso Parkway SB off-ramp (existing auxiliary lane is not continuous).
- Between El Toro Road SB on-ramp and Alicia Parkway SB off-ramp (existing auxiliary lane is not continuous; 2<sup>nd</sup> auxiliary will also be reestablished).

### *Avery Parkway Interchange Improvements*

In addition to providing an additional general purpose lane to the I-5/Avery Parkway interchange, the interchange configuration will also be improved. There are two options under consideration for improvement of the interchange, both of which require replacement of the Avery Parkway UC structure.

#### *Design Option A – Modified Tight Diamond Interchange*

Under this option, the on- and off-ramps at Avery Parkway will be realigned and the NB off-ramp will be widened to three lanes at the intersection with Avery Parkway. Similarly, the NB on-ramp would be widened to three lanes and the SB off-ramp would be widened to four lanes at the intersection. The SB off-ramp would be improved to two lanes at the diverge from I-5, with one mainline auxiliary lane for the second lane. The overall configuration of the interchange will be similar to the existing configuration. Additionally, Avery Parkway will be improved under the structure to provide side-by-side dual left-turn lanes to both the NB and SB on-ramps and three through lanes in the EB and WB directions. This alternative will incorporate an interconnect line to optimize signal timing and operations for the closely spaced intersections at the interchange. Standard outside shoulders (which would accommodate bicycles) will be provided throughout the majority of the interchange in the EB and WB directions. Sidewalk will be provided through the interchange in the EB and WB directions.

#### *Design Option B – SB Hook On- and Off-Ramps*

Under this option, an SB hook off-ramp and SB hook on-ramp will be added to allow for the removal of the existing left-turn lane for traffic accessing SB I-5. The hook ramps would provide access to SB I-5 from Camino Capistrano, just south of the Camino Capistrano/Avery Parkway intersection. The SB off-ramp would be improved to two lanes at the diverge from I-5, as described under Design Option A. (The NB ramps would maintain the same improved configuration described under Design Option A.) Avery Parkway will be improved under the structure to provide dual left-turn lanes to the NB on-ramp and three through lanes in the EB and WB directions. Standard outside shoulders (which would accommodate bicycles) will be provided throughout the majority of the interchange in the EB and WB directions. Sidewalk will be provided through the interchange in the EB and WB directions.

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### *La Paz Road Interchange Improvements*

In addition to providing an additional general purpose lane within the I-5/La Paz Road interchange, capacity will also be added to La Paz Road, requiring replacement of the La Paz Road UC structure. The overall configuration of the interchange will remain the same, but La Paz Road will be improved under the structure to provide two through lanes in each direction, as well as right-turn lanes to the NB and SB loop on-ramps. Bicycle lanes and standard outside shoulders will be provided throughout the majority of the interchange in the EB and WB directions. Sidewalk will be provided through the interchange in the EB and WB directions.

### *Ramps*

All ramps within the project limits will be modified in order to accommodate the additional general purpose lane, which include improvements ranging from restriping to complete reconstruction. Specifically, ramp modifications under this alternative include:

#### *Avery Parkway*

- Modify ramps as described in Design Options A and B above.

#### *Crown Valley Parkway*

- Realign, reconstruct, and widen NB off-ramp.
- Realign and reconstruct NB loop on-ramp and directional on-ramp.
- Realign, reconstruct, and widen SB off-ramp.
- Realign and reconstruct SB on-ramp.

#### *Oso Parkway*

- Realign and reconstruct NB off-ramp, loop on-ramp, and directional on-ramp.
- Realign and reconstruct SB off-ramp, loop on-ramp, and directional on-ramp.

#### *La Paz Road*

- Realign, reconstruct, and widen NB off-ramp, NB loop on-ramp, and directional on-ramp.
- Realign, reconstruct, and widen SB off-ramp, SB loop on-ramp, and directional on-ramp.

#### *Alicia Parkway*

- Realign, reconstruct, and widen NB off-ramp.
- Realign and reconstruct NB loop on-ramp and directional on-ramp.
- Realign, reconstruct, and widen SB off-ramp.
- Realign and reconstruct SB loop on-ramp and SB directional on-ramp.

#### *El Toro Road*

- Realign, reconstruct, and widen NB off-ramp.
- Realign and reconstruct NB loop on-ramp and NB directional on-ramp.
- Realign and restripe SB off-ramp.
- Realign and reconstruct SB loop on-ramp and directional on-ramp.

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## Structures

### *Avery Parkway UC (Bridge No. 55-0232)*

This alternative proposes to replace the Avery Parkway UC structure to accommodate the wider Avery Parkway cross-section under the structure and to improve the existing non-standard vertical clearance of 14'8" with the minimum required 15'. In order to achieve minimum vertical clearance for this structure, a two-span structure is proposed to minimize the structure depth and the Avery Parkway profile will be lowered through the interchange area. Additionally, to ensure that all existing mainline lanes are open through construction, the I-5 centerline will be realigned easterly approximately 40 feet through the interchange.

### *Crown Valley Parkway (Bridge No. 55-0444)*

- Tie-back walls for NB and SB I-5.

### *Oso Creek (Bridge No. 55-0233)*

- Structure widening for NB and SB I-5.

### *Oso Parkway (Bridge No. 55-0509)*

- Tie-back walls for NB and SB I-5

### *El Toro OH (Bridge No. 55-0221)*

- Structure widening for NB I-5.
- Structure replacement for NB off-ramp to La Paz Road.

### *La Paz Road UC (Bridge No. 55-0234)*

This alternative proposes to replace the La Paz Road UC structure to accommodate the wider La Paz Road cross-section under the structure and to improve the existing non-standard vertical clearance of 14 feet, 10 inches with the minimum required 15 feet. This includes replacement of the structure for the NB loop-on ramp from La Paz Road. In order to achieve minimum vertical clearance for this structure, a two-span structure is proposed to minimize the structure depth. No profile adjustment is proposed for either I-5 or La Paz Road. Additionally, to ensure that all existing mainline lanes are open through construction, the I-5 centerline will be realigned easterly approximately 77 feet to 85 feet through the interchange.

### *Alicia Parkway OC (Bridge No. 55-0591)*

- Tie-back wall for NB I-5.

### *Aliso Creek UC (Bridge No. 55-0014)*

- Structure widening for SB I-5.

### *Los Alisos Boulevard OC (Bridge No. 55-0631)*

This alternative proposes to replace the Los Alisos Boulevard OC structure to accommodate the wider I-5 cross-section under the structure. No profile adjustment is proposed. Additionally, the new structure will be constructed to accommodate three future lanes in each direction on Los Alisos Boulevard, to be consistent with the ultimate lane configuration in the Master Plan of Arterial Highways (MPAH).

*El Toro Road UC (Bridge No. 55-0235)*

- Structure widening for NB and SB I-5.

**Alternative 3**

Alternative 3 is very similar in nature to Alternative 2, except that it proposes one additional general purpose lane from Avery Parkway to Alicia Parkway and a second additional general purpose lane from Crown Valley Parkway to Alicia Parkway; refer to Figure 3 (Alternative 3).

Other differences from Alternative 2 are noted below.

*Auxiliary Lanes*

New auxiliary lanes will be constructed in the same locations as noted in Alternative 2.

*Avery Parkway Interchange Improvements*

Design options for the Avery Parkway interchange reconfiguration will be the same as those noted under Alternative 2.

*La Paz Road Interchange Improvements*

The La Paz Road interchange improvements will be the same as noted under Alternative 2.

*Ramps*

Ramp modifications will be the same as those noted under Alternative 2.

*Structures*

Modifications and improvements to structure are the same as those noted under Alternative 2, although they will be widened further to accommodate the additional general purpose lane. Additional modifications are proposed for the following:

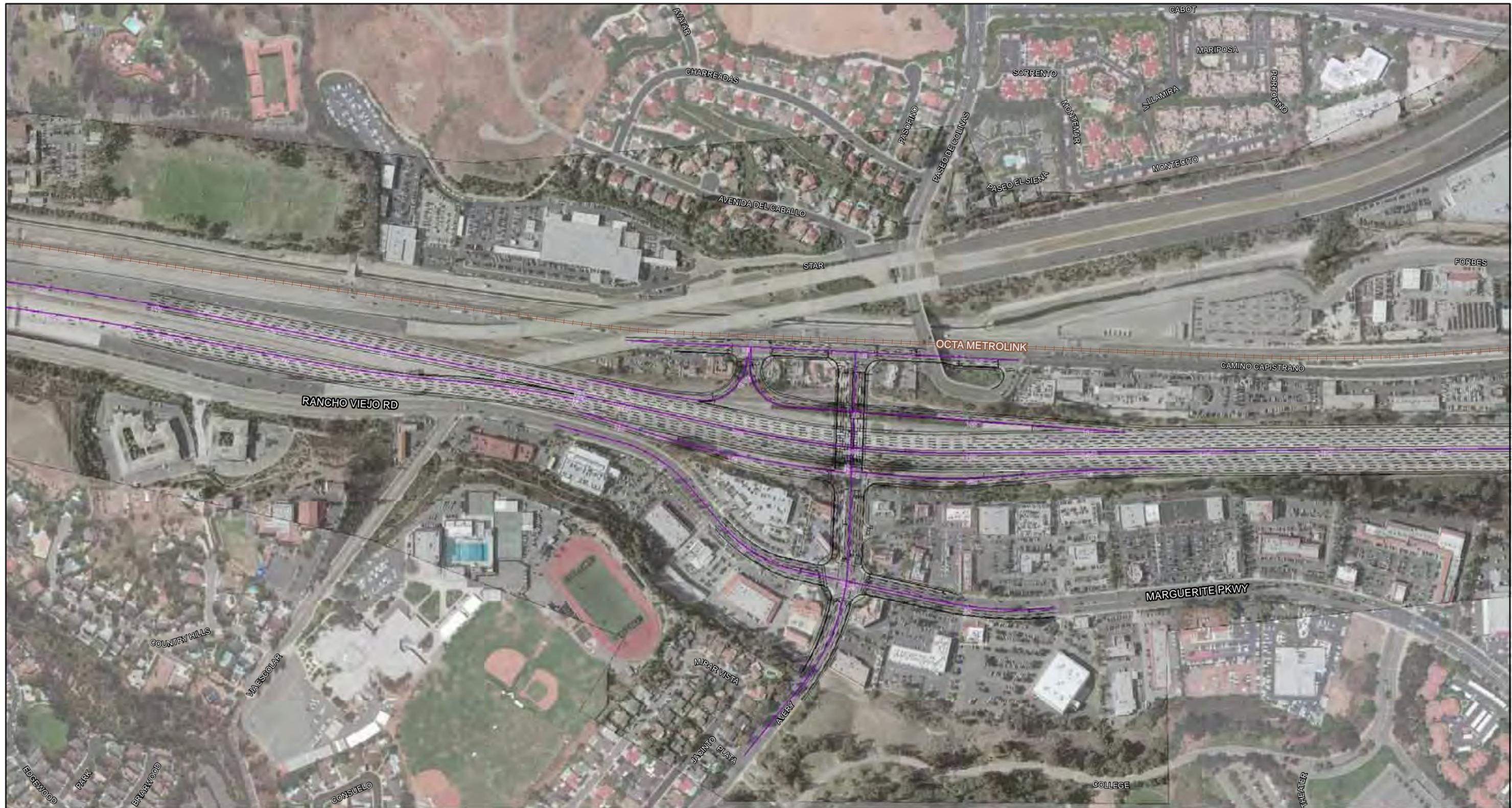
*El Toro OH (Bridge No. 55-0221)*

- Structure widening for SB I-5.

**2.3 PURPOSE AND NEED****Purpose of the Project**

The purpose of the I-5 Widening Project (proposed project) is to improve both existing and forecast mainline congestion on I-5 from SR-73 to El Toro Road and improve interchange operations on an interim basis. The following goals/objectives have also been identified for consideration within the project limits:

- Improve vehicle occupancy within the Study Area.
- Provide continuity of the HOV network within the proposed project limits.
- Improve ingress/egress from freeway ramps.
- Maximize use of the existing right-of-way to provide appropriate facility improvements.



LEGEND

Alternative 3

— Proposed Geometrics

— Station Line



SOURCE: Bing Maps (c.2008) and RBF (1/2012); TranSystems (3/13/2012, 6/26/2012, 7/16/2012)

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FIGURE 3  
Sheet 1 of 6

I-5 Widening Project: SR-73 to El Toro Road  
Alternative 3

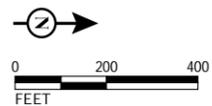


LEGEND

Alternative 3

— Proposed Geometrics

— Station Line



SOURCE: Bing Maps (c.2008) and RBF (1/2012); TranSystems (3/13/2012, 6/26/2012, 7/16/2012)  
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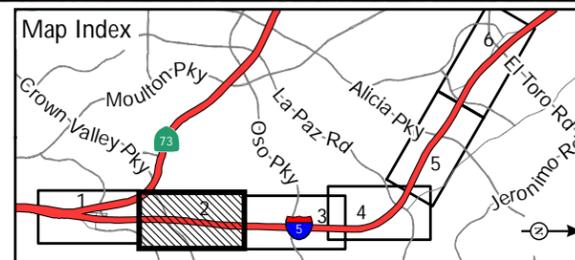


FIGURE 3  
 Sheet 2 of 6

I-5 Widening Project: SR-73 to El Toro Road  
 Alternative 3

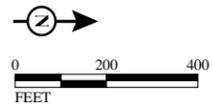


LEGEND

Alternative 3

— Proposed Geometrics

— Station Line



SOURCE: Bing Maps (c.2008) and RBF (1/2012); TranSystems (3/13/2012, 6/26/2012, 7/16/2012)

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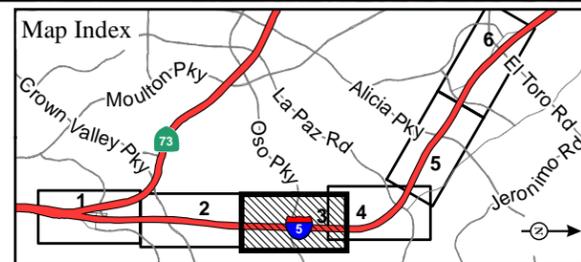


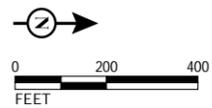
FIGURE 3

Sheet 3 of 6

I-5 Widening Project: SR-73 to El Toro Road  
Alternative 3



- LEGEND
- Alternative 3
  - Proposed Geometrics
  - Station Line



SOURCE: Bing Maps (c.2008) and RBF (1/2012); TranSystems (3/13/2012, 6/26/2012, 7/16/2012)  
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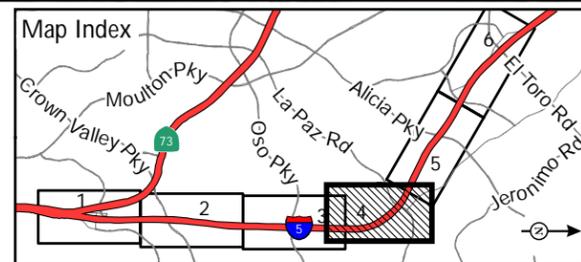


FIGURE 3  
 Sheet 4 of 6

I-5 Widening Project: SR-73 to El Toro Road  
 Alternative 3



LEGEND

Alternative 3

- Proposed Geometrics
- Station Line



SOURCE: Bing Maps (c.2008) and RBF (1/2012); TranSystems (3/13/2012, 6/26/2012, 7/16/2012)  
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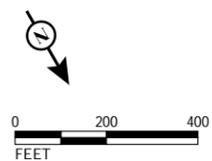


FIGURE 3  
 Sheet 5 of 6

I-5 Widening Project: SR-73 to El Toro Road  
 Alternative 3



- LEGEND
- Alternative 3
  - Proposed Geometrics
  - Station Line



SOURCE: Bing Maps (c.2008) and RBF (1/2012); TranSystems (3/13/2012, 6/26/2012, 7/16/2012)  
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FIGURE 3  
 Sheet 6 of 6

I-5 Widening Project: SR-73 to El Toro Road  
 Alternative 3

## Need for the Project

The I-5 corridor is the only major freeway connecting Los Angeles and Orange counties with San Diego County. The 2011 traffic volume for this corridor was approximately 358,000 vehicles per day and is expected to increase by approximately 25percent by 2045 bringing freeway volumes up to 448,000 vehicles per day<sup>2</sup>. Currently, this stretch of the I-5 corridor has insufficient capacity on the freeway mainline, interchange areas, on- and off-ramps, and local intersections to handle existing and projected 2045 travel demand in the Study Area. This condition also affects the traffic operation at the local interchanges with this segment of I-5. As a result, this corridor is operating with a condition of traffic demand exceeding capacity due to the following conditions:

- A high level of traffic during the weekdays as well as the weekends/holidays due to lack of capacity.
- Congestion at the freeway on- and off- ramps/intersections due to high traffic demands at the ramps.
- Congestion due to weaving and merging between the on- and off- ramps at several interchanges as a result of overall traffic volume.

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<sup>2</sup> I-5 Widening Project from SR-73 to El Toro Road PA/ED Traffic Study, June 2012. (Table 2-10)

### 3.0 REGULATORY FRAMEWORK

In order to implement the hot-spot analysis requirements of the March 10, 2006 Final Rule, the *Transportation Conformity Guidance for Qualitative Hot-Spot Analyses in PM<sub>2.5</sub> and PM<sub>10</sub> Non-attainment and Maintenance Areas* (March 10, 2006 Final Rule) was developed by the EPA and the FHWA. “Conformity” in an air quality context is the Federal Clean Air Act (FCAA) requirement that all federal actions conform to the letter and spirit of the State Implementation Plan (SIP). The SIP is the State’s plan for attaining and maintaining attainment of the National Ambient Air Quality Standards (NAAQS). Conformity ensures that transportation plans, programs, and projects do not: 1) produce new air quality violations; 2) worsen existing violations; or 3) delay timely attainment of NAAQS.

Conformity requirements are set forth in Section 176(c) of the FCAA, which is codified in 42 USC 7506(c). Specific criteria and procedures for carrying out the conformity process are in the Code of Federal Regulations (CFR) at 40 CFR 93 Subparts A (Highways and Transit) and B (General Federal Actions). Essentially, all projects that are funded or approved by FHWA or FTA must follow the procedures and criteria specified in Subpart A. Nonattainment areas are subject to this “Transportation Conformity Rule,” which requires local transportation and air quality officials to coordinate planning to ensure that transportation projects, such as road construction, do not affect an area’s ability to reach its clean air quality goals.

This Transportation Conformity Rule specifies that projects that are not fully exempt from conformity requirements must have a project-level conformity analysis. The conformity analysis must address whether or not the project comes from a conforming regional transportation plan and transportation improvement program, or has an equivalent regional analysis in nonattainment or maintenance areas that do not have a Metropolitan Planning Organization (MPO), and includes hot-spot analysis and related commitments where applicable. A hot-spot analysis is required in nonattainment and maintenance areas for CO, PM<sub>10</sub>, and PM<sub>2.5</sub>. Transportation conformity requirements become effective one year after an area is designated as nonattainment. The March 10, 2006 Final Rule requires a qualitative PM<sub>10</sub> and PM<sub>2.5</sub> hot-spot analysis to be completed for a project of air quality concern (POAQC). The proposed project is within a nonattainment area for federal PM<sub>10</sub> and PM<sub>2.5</sub> standards. Therefore, per 40 CFR Part 93, analyses are required for conformity purposes. The EPA does not require hot-spot analyses (either qualitative or quantitative) for projects that are not listed in Section 93.123(b)(1) as a POAQC.

A qualitative hot-spot analysis is defined in 40 CFR 93.101 as an estimation of likely future localized pollutant concentrations resulting from a new transportation project and a comparison of those concentrations to the relevant air quality standard. A hot-spot analysis assesses the air quality impacts on a scale smaller than an entire nonattainment or maintenance area, including, for example, congested roadway intersections and highways or transit terminals. Such an analysis is a means of demonstrating that a transportation project meets FCAA conformity requirements to support state and local air quality goals with respect to potential localized air quality impacts.

#### Ambient Air Quality Standards

The proposed project is located within the South Coast Air Basin (SCAB), which is designated as a nonattainment area for federal PM<sub>10</sub> and PM<sub>2.5</sub> standards. The PM<sub>2.5</sub> 24-hour standard of 65 µg/m<sup>3</sup> (established in 1997) was revised to 35 µg/m<sup>3</sup> in 2006. The annual federal standard for PM<sub>2.5</sub> is 15 µg/m<sup>3</sup>. The 24-hour standard for PM<sub>10</sub> is 150 µg/m<sup>3</sup>. There is no annual federal standard for PM<sub>10</sub>.

The 24-hour  $PM_{2.5}$  standard is based on 3-year average of the 98<sup>th</sup> percentile of 24-hour recorded concentrations; the annual standard is based on 3-year average of the annual arithmetic mean  $PM_{2.5}$  recorded at the monitoring station. A  $PM_{2.5}$  hot-spot analysis must consider both standards, unless it is determined for a given area that meeting the controlling standard would ensure that FCAA requirements are met for both standards. The interagency consultation process is used to discuss how the qualitative  $PM_{2.5}$  hot-spot analysis meets statutory and regulatory requirements for both standards, depending on the factors that are evaluated for a given project.

$PM_{10}$  nonattainment and maintenance areas are required to attain and maintain the 24-hour standard of  $150 \mu\text{g}/\text{m}^3$ . The 24-hour  $PM_{10}$  standard is attained when the average number of exceedances in the previous three calendar years is less than or equal to one. An exceedance occurs when a 24-hour average concentration of greater than  $150 \mu\text{g}/\text{m}^3$  is measured at a monitoring site. The annual  $PM_{10}$  standard of  $50 \mu\text{g}/\text{m}^3$  is no longer used for determining the federal attainment status. The interagency consultation process is used to discuss how the qualitative  $PM_{10}$  hot-spot analysis meets statutory and regulatory requirements for  $PM_{10}$  standard, depending on the factors that are evaluated for a given project.

## 4.0 PM<sub>10</sub> AND PM<sub>2.5</sub> QUALITATIVE ANALYSIS

### Projects of Air Quality Concern

The March 10, 2006 Final Rule requires a hot spot analysis to be performed for a POAQC or any other project identified by the PM<sub>10</sub> and PM<sub>2.5</sub> SIP as a localized air quality concern. EPA's final rule, 40 CFR 93.123(b)(1) defines a POAQC as:

- (i) New or expanded highway projects that have a significant number of or significant increase in diesel vehicles;
- (ii) Projects affecting intersections that are at Level-of-Service D, E, or F with a significant number of diesel vehicles, or those that will change to Level-of-Service D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project;
- (iii) New bus and rail terminals and transfer points that have a significant number of diesel vehicles congregating at a single location;
- (iv) Expanded bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location; and
- (v) Projects in or affecting locations, areas, or categories of sites which are identified in the PM<sub>2.5</sub> or PM<sub>10</sub> applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.

For the assessment of PM<sub>10</sub> and PM<sub>2.5</sub> hotspots, the final rule is that a hotspot analysis is to be performed only for POAQCs. POAQCs are certain highway and transit projects that involve significant levels of diesel traffic or any other project identified in the PM<sub>2.5</sub> or PM<sub>10</sub> SIP as a localized air quality concern. The following list provides examples of POAQCs:

- A project on a new highway or expressway that serves a significant volume of diesel truck traffic, such as facilities with greater than 125,000 annual average daily traffic (AADT) where 8 percent or more of such AADT is diesel truck traffic.
- New exit ramps and other highway facility improvements to connect a highway or expressway to a major freight, bus, or intermodal terminal.
- Expansion of an existing highway or other facility that affects a congested intersection (operated at LOS D, E, or F) that has a significant increase in the number of diesel trucks.
- Similar highway projects that involve a significant increase in the number of diesel transit busses and/or diesel trucks.

The following are examples of projects that are not an air quality concern under 40 CFR 93.123(b)(1)(i) and (ii):

- Any new or expanded highway project that primarily services gasoline vehicle traffic (i.e., does not involve a significant number or increase in the number of diesel vehicles), including such projects involving congested intersections operating at Level-of-Service D, E, or F;
- An intersection channelization project or interchange configuration project that involves either turn lanes or slots, or lanes or movements that are physically separated. These kinds of projects improve freeway operations by smoothing traffic flow and vehicle speeds by improving weave

and merge operations, which would not be expected to create or worsen PM<sub>2.5</sub> or PM<sub>10</sub> violations; and

- Intersection channelization projects, traffic circles or roundabouts, intersection signalization projects at individual intersections, and interchange reconfiguration projects that are designed to improve traffic flow and vehicle speeds, and do not involve any increases in idling. Thus, they would be expected to have a neutral or positive influence on PM<sub>2.5</sub> or PM<sub>10</sub> emissions.

Examples of projects that are not an air quality concern under 40 CFR 93.123(b)(1)(iii) and (iv) include:

- A new or expanded bus terminal that is serviced by non-diesel vehicles (e.g., compressed natural gas) or hybrid-electric vehicles; and,
- A 50 percent increase in daily arrivals at a small terminal (e.g., a facility with 10 buses in the peak hour).

For projects identified as not being a POAQC, qualitative PM<sub>10</sub> and PM<sub>2.5</sub> hotspot analyses are not required. For these types of projects, state and local project sponsors should briefly document in their project-level conformity determinations that FCAA and 40 CFR 93.116 requirements were met without a hotspot analysis, since such projects have been found to not be of air quality concern under 40 CFR 93.123(b)(1). As the project area is classified as a nonattainment area for the federal PM<sub>10</sub> and PM<sub>2.5</sub> standard, a determination must be made as to whether it would result in a PM<sub>10</sub> or PM<sub>2.5</sub> hotspot.

Of the five POAQC types identified above, the project most likely falls into the first category of a “new or expanded highway projects that have a significant number of or significant increase in diesel vehicles.” Existing average daily traffic (ADT) volumes for each freeway segment within the project study area are depicted in Table 1 (Existing Traffic Volumes). The study area includes the section of freeway proposed for widening, along with the freeway segments preceding and following the project area. Also included in the study area are the arterial roadways and intersections in the vicinity of the freeway project. As shown in Table 1, existing traffic volumes range from 182,500 to 364,600 ADT, which includes truck volumes that range from 6,388 to 12,761 ADT. As a result, traffic volumes along I-5 exceed the EPA and FHWA’s POAQC guideline of 125,000 ADT. Therefore, this Qualitative PM<sub>10</sub> and PM<sub>2.5</sub> Assessment has been prepared for consideration by the Transportation Conformity Working Group (TCWG) in lieu of a PM Hot Spot Interagency Review Form. This project has not been previously presented for consideration by the TCWG.

The final Transportation Conformity Rule requires a hot spot analysis to be performed for a POAQC, while projects identified as not being a POAQC are not required to undergo a hot spot analysis. As indicated in the analysis below, the data depicted in Table 5 indicates that the project is a POAQC based on roadway traffic and truck ADT. As such, and a qualitative PM<sub>10</sub> and PM<sub>2.5</sub> hot spot analysis consistent with FHWA and EPA’s 2006 qualitative hot spot analysis guidance is required.

A hot-spot analysis is defined in Section 93.101 of 40 CFR as an estimation of likely future localized pollutant concentrations and a comparison of those concentrations to the relevant air quality standards. A hot-spot analysis assesses the air quality impacts on a project-level, which is a scale smaller than an entire nonattainment or maintenance area, such as for congested roadway intersections and highways or transit terminals. Such an analysis is a means of demonstrating that a transportation project meets the FCAA conformity requirements to support state and local air quality goals with respect to achieving the attainment status in a timely manner. When a hot-spot analysis is required, it is included within the project-level conformity determination that is made by FHWA or the FTA.

**Table 1**  
**Existing Traffic Volumes**

Roadway Segment	Existing 2011	
	ADT	Truck ADT
<b>I-5 Mainline</b>		
Ortega Highway and Junipero Serra Road	272,000	9,520
Junipero Serra Road and SR-73	279,000	9,765
SR-73 and Avery Parkway	234,000	8,190
Avery and Crown Valley	244,100	8,544
Crown Valley Parkway and Oso Parkway	282,700	9,895
Oso Parkway and La Paz Road	298,100	10,434
La Paz Road and Alicia Parkway	323,200	11,312
Alicia Parkway and El Toro Road	358,000	12,530
El Toro Road and Lake Forest Drive	364,600	12,761
Lake Forest Drive and I-405	292,400	10,234
I-405 and Alton Parkway	182,500	6,388
Alton Parkway and SR-133	239,600	8,386

Source: Stantec, *I-5 Widening Project from SR-73 to El Toro Road PA/ED (EA 0K0200 EFIS 1200000318) Traffic Report*, June 2012.

#### 4.1 METHODS AND TYPES OF EMISSIONS

The EPA and FHWA guidance for qualitative hot-spot analyses establishes the following two methods for completing a PM<sub>10</sub> and PM<sub>2.5</sub> hot-spot analysis:

1. Comparison to another location with similar characteristics (pollutant trend within the air basin).
2. Air quality studies for the proposed project location (ambient particulate matter trend analysis in the project area).

This analysis uses a combined approach to demonstrate that the proposed project would not result in a new or worsened PM<sub>10</sub> or PM<sub>2.5</sub> violation. Method 1 was used to establish that the proposed project area would meet the NAAQS. Method 2 was used to demonstrate that implementation of the proposed project would not delay attainment of the NAAQS.

The analysis was based on directly emitted PM<sub>10</sub> and PM<sub>2.5</sub> emissions, including tailpipe, brake wear, and tire wear. Re-entrained road dust is also included in the qualitative analysis, as PM<sub>10</sub> re-entrained dust must be considered per conformity requirements and PM<sub>2.5</sub> re-entrained road dust must be considered because the California Air Resources Board (CARB) has determined that re-entrained road dust is a significant contributor to ambient PM<sub>2.5</sub> concentrations in the region.

Secondary particles formed through PM<sub>10</sub> and PM<sub>2.5</sub> precursor emissions from transportation project take several hours to form in the atmosphere, giving emissions time to disperse beyond the immediate project area of concern for localized analyses; therefore, they were not considered in this hot-spot analysis. Secondary emissions of PM<sub>10</sub> and PM<sub>2.5</sub> are considered as part of the regional emission analysis prepared for the conforming RTP and FTIP.

Project construction is anticipated to begin in 2018 and end by the 2022. As such, construction duration would be less than five years. In addition, the project must comply with South Coast Air Quality Management District (SCAQMD) construction-related fugitive dust control measures (Rule 403), which

would ensure that fugitive dust from construction activities are minimized. Consequently, construction-related PM<sub>10</sub> and PM<sub>2.5</sub> emissions were not included in the hot spot analysis per 40 CFR 93123(c)(5).

## 4.2 PM<sub>10</sub> AND PM<sub>2.5</sub> TRENDS

### Climate and Meteorology

The proposed project is located within the SCAB. The SCAB is characterized as having a “Mediterranean” climate (a semi-arid environment with mild winters, warm summers, and moderate rainfall). The SCAB is a 6,600-square mile area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The SCAB includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties, in addition to the San Gorgonio Pass area of Riverside County. Its terrain and geographical location determine the distinctive climate of the SCAB, as it is a coastal plain with connecting broad valleys and low hills.

The general region lies in the semi-permanent, high-pressure zone of the eastern Pacific. As a result, the climate is mild and tempered by cool sea breezes. The climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. The extent and severity of the air pollution problem in the SCAB is a function of the area’s natural physical characteristics (weather and topography), as well as man-made influences (development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall, and topography all affect the accumulation and/or dispersion of pollutants throughout the SCAB.

The average annual temperature varies little throughout the SCAB, and averages about 75 degrees Fahrenheit. However, with a less pronounced oceanic influence, the eastern inland portions of the SCAB show greater variability in annual minimum and maximum temperatures. All portions of the SCAB have had recorded temperatures over 100 degrees in recent years. January is usually the coldest month at all locations, while July and August are usually the hottest months of the year. Although the SCAB has a semi-arid climate, the air near the surface is moist because of the presence of a shallow marine layer. Except for infrequent periods when dry, continental air is brought into the SCAB by off-shore winds, the ocean effect is dominant. Periods with heavy fog are frequent; low stratus clouds, occasionally referred to as “high fog,” are a characteristic climate feature. Annual average relative humidity is 70 percent at the coast and 57 percent in the eastern part of the SCAB. Precipitation in the SCAB is typically 9 to 14 inches annually and is rarely in the form of snow or hail due to typically warm weather. The frequency and amount of rainfall is greater in the coastal areas of the SCAB.

The project vicinity experiences fairly mild weather, with temperatures typically ranging from 43 degrees Fahrenheit in the winter to 80 degrees Fahrenheit in the summer. On average, the warmest month is August with a mean temperature of approximately 80 degrees Fahrenheit. The coolest month is generally December with a mean average of 43 degrees Fahrenheit. The project vicinity experiences the greatest amount of precipitation in the month of February.<sup>3</sup>

### Sunlight

The presence and intensity of sunlight are necessary prerequisites for the formation of photochemical smog. Under the influence of the ultraviolet radiation of sunlight, certain original, or “primary” pollutants (mainly reactive hydrocarbons and oxides of nitrogen) react to form “secondary” pollutants (primarily

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<sup>3</sup> The Weather Channel, Monthly Averages for Mission Viejo, Accessed June 29, 2012.  
<http://www.weather.com/outlook/health/fitness/wxclimatology/monthly/graph/USCA0127>

oxidants). Since this process is time dependent, secondary pollutants can be formed many miles downwind from the emission sources. Due to the prevailing daytime winds and time-delayed nature of photochemical smog, oxidant concentrations are highest in the inland areas of Southern California.

### Temperature Inversions

Under ideal meteorological conditions and irrespective of topography, pollutants emitted into the air would be mixed and dispersed into the upper atmosphere. However, the Southern California region frequently experiences temperature inversions in which pollutants are trapped and accumulate close to the ground. The inversion, a layer of warm, dry air overlaying cool, moist marine air, is a normal condition in the southland. The cool, damp, and hazy sea air capped by coastal clouds is heavier than the warm, clear air that acts as a lid through which the marine layer cannot rise. The height of the inversion is important in determining pollutant concentration. When the inversion is approximately 2,500 feet above sea level, the sea breezes carry the pollutants inland to escape over the mountain slopes or through the passes. At a height of 1,200 feet, the terrain prevents the pollutants from entering the upper atmosphere, resulting in a settlement in the foothill communities. Below 1,200 feet, the inversion puts a tight lid on pollutants, concentrating them in a shallow layer over the entire coastal basin. Usually, inversions are lower before sunrise than during the daylight hours. Mixing heights for inversions are lower in the summer and more persistent, being partly responsible for the high levels of ozone observed during summer months in the SCAB. Smog in Southern California is generally the result of these temperature inversions combining with coastal day winds and local mountains to contain the pollutants for long periods of time, allowing them to form secondary pollutants by reacting with sunlight. The SCAB has a limited ability to disperse these pollutants due to low wind speeds.

The area in which the proposed I-5 Widening project is located offers clear skies and sunshine; however, it is still susceptible to air inversions. This traps a layer of stagnant air near the ground where it is further loaded with pollutants. These inversions cause haziness, which is caused by moisture, suspended dust, and a variety of chemical aerosols emitted by trucks, automobiles, furnaces, and other sources.

### Monitored Air Quality

The SCAQMD operates several air quality monitoring stations throughout the SCAB. The project site represents the border between Source Receptor Area (SRA) 19 (Saddleback Valley) and SRA 20 (Central Orange County Coastal). The communities within an SRA are expected to have similar climatology and subsequently, similar ambient air pollutant concentrations. The Mission Viejo Monitoring Station is the closest monitoring station to the site (approximately 1.9 miles northeast) within SRA 19. The data collected at this station is considered to be representative of the air quality experienced on-site. Air quality data from 2005 to 2011 is provided in Table 2 (Ambient PM<sub>10</sub> and PM<sub>2.5</sub> Monitoring Data). Additionally, data from the Anaheim-Pampas Lane Monitoring Station is also included in Table 2, as it represents conditions in close proximity to a freeway (approximately 0.23 miles from I-5). However, it should be noted that this segment of I-5 has greater truck volumes than the portion of I-5 within the project area.<sup>4</sup>

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<sup>4</sup> Based on Caltrans Traffic and Vehicle Data Systems, *2010 Annual Average Daily Truck Traffic on the California State Highway System*, the segment of I-5 between Lincoln Avenue and Katella Avenue (adjacent to the Anaheim-Pampas Lane Monitoring Station) has a total truck ADT of 25,840. The maximum truck ADT within the project is 12,761 (refer to Table 1). Therefore, Table 2 provides a conservative depiction of the representative air quality within the project area.

**Table 2**  
**Ambient PM<sub>10</sub> and PM<sub>2.5</sub> Monitoring Data**

Year	Particulate Matter (PM <sub>10</sub> )	Fine Particulate Matter (PM <sub>2.5</sub> )			
	Maximum Concentration	Maximum Concentration			
	24 Hour Standard (150 µg/m <sup>3</sup> )	24 Hour Standard (35 µg/m <sup>3</sup> )	98 <sup>th</sup> Percentile of 24-hour Concentration	3-Year Average 98 <sup>th</sup> Percentile	Annual Average (15 µg/m <sup>3</sup> )
<b>Mission Viejo Monitoring Station<sup>1</sup></b>					
2011	48.0	33.4	28.8	8.7	8.5
2010	34.0	19.9	17.3	9.3	8.0
2009	56.0	39.2	23.8	NM	9.5
2008	42.0	32.6	27.0	NM	10.4
2007	74.0	46.8	35.7	NM	NM
2006	57.0	46.9	NM	NM	NM
2005	41.0	35.3	31.4	NM	10.6
<b>Anaheim-Pampas Lane Monitoring Station<sup>2</sup></b>					
2011	53.0	39.2	28.1	11.2	11.1
2010	43.0	31.7	26.9	NM	10.5
2009	97.4	64.5	32.1	NM	12.1
2008	111.5	67.8	31.2	NM	NM
2007	489.0	79.4	46.5	14.4	14.4
2006	104.0	56.2	36.9	15.2	14.0
2005	65.0	54.7	41.8	16.3	14.7
PM <sub>10</sub> = particulate matter 10 microns in diameter or less µg/m <sup>3</sup> = micrograms per cubic meter		PM <sub>2.5</sub> = particulate matter 2.5 microns in diameter or less NM = Not Measured			
Notes:					
1. Measurements taken at the Mission Viejo Monitoring Station located at 26081 Via Pera, Mission Viejo, California 92691.					
2. Measurements taken at the Anaheim-Pampas Lane Monitoring Station located at 1630 Pampas Lane, Anaheim, California 92802.					
3. PM <sub>10</sub> and PM <sub>2.5</sub> exceedances are derived from the number of samples exceeded, not days.					
Source: California Air Resources Board, <i>ADAM Air Quality Data Statistics</i> ; <a href="http://www.arb.ca.gov/adam/welcome.html">http://www.arb.ca.gov/adam/welcome.html</a> .					

## Future Trends

Emission trend data for the SCAB is provided in *The California Almanac of Emissions and Air Quality* (dated 2009) published by CARB and includes an estimate of potential PM<sub>10</sub> and PM<sub>2.5</sub> trends in the vicinity of the project area. Although the CARB's data does not include emission trend data on the county level, the regional trend data can be used to provide insight on the general trends of air quality in the project area, as implementation of emission standards and control requirements that have an effect on regional pollutant concentrations are likely to result in similar trends at the local level. Table 3 (Directly Emitted PM<sub>10</sub> Emissions Trends [Tons per Day, Annual Average]) and Table 4 (Directly Emitted PM<sub>2.5</sub> Emissions Trends [Tons per Day, Annual Average]) depict the CARB Almanac data for PM<sub>10</sub> and PM<sub>2.5</sub> emission trends in the SCAB for the years 1975 through 2020.

**Table 3**  
**Directly Emitted PM<sub>10</sub> Emissions Trends (Tons per Day, Annual Average)**

Emission Source	1975	1980	1985	1990	1995	2000	2005	2010	2015	2020
<b>All Sources</b>	223	232	253	337	323	320	281	286	297	307
<b>Stationary Sources</b>	60	44	32	29	22	22	20	25	26	28
<b>Area-Wide Sources</b>	122	145	173	249	255	254	213	219	231	241
<b>On-Road Mobile</b>	18	20	25	32	25	24	27	25	24	24
Gasoline Vehicles	10	8	9	11	11	13	16	16	18	20
Diesel Vehicles	8	12	16	21	13	11	11	8	6	4
<b>Other Mobile</b>	24	24	23	27	21	21	21	18	16	15
Gasoline Fuel	2	3	3	4	4	4	4	5	6	7
Diesel Fuel	19	19	18	21	15	15	14	11	8	5
Other Fuel	2	2	2	3	3	2	3	2	2	3

Source: California Air Resources Board, *The California Almanac of Emissions and Air Quality*, 2009.

**Table 4**  
**Directly Emitted PM<sub>2.5</sub> Emissions Trends (Tons per Day, Annual Average)**

Emission Source	1975	1980	1985	1990	1995	2000	2005	2010	2015	2020
<b>All Sources</b>	125	114	113	125	108	108	103	102	102	103
<b>Stationary Sources</b>	52	34	23	24	16	16	13	15	16	17
<b>Area-Wide Sources</b>	39	43	49	52	54	56	51	53	56	58
<b>On-Road Mobile</b>	13	15	20	25	19	18	20	18	17	16
Gasoline Vehicles	6	5	5	6	7	8	10	10	12	13
Diesel Vehicles	7	11	15	19	12	10	10	8	5	4
<b>Other Mobile</b>	21	22	21	25	19	19	18	16	14	12
Gasoline Fuel	2	2	2	3	3	3	3	4	4	5
Diesel Fuel	18	18	16	19	14	13	12	10	7	5
Other Fuel	2	2	2	3	3	2	3	2	2	3

Source: California Air Resources Board, *The California Almanac of Emissions and Air Quality*, 2009.

The emissions trends presented above in Table 3 and Table 4 indicate that total on-road emissions are expected to maintain a decreasing trend through 2020, with increases in emissions from on-road gasoline vehicles offset by substantial decreases in emissions from on-road diesel vehicles. Emissions of directly emitted PM<sub>10</sub> and PM<sub>2.5</sub> and from diesel motor vehicles have been decreasing since their peak levels in 1990 even though population and vehicles miles traveled (VMT) are increasing due to adoption of more stringent emission standards. Total on-road PM<sub>10</sub> and PM<sub>2.5</sub> emissions increased between 1975 and 1990, the year in which emissions peaked (32 tons/day for PM<sub>10</sub> and 25 tons/day for PM<sub>2.5</sub>). Total on-road emissions decreased between 1990 and 2000, increased in 2005, and are projected to show a decreasing trend through 2020.

#### 4.3 PROJECT AND EMISSIONS TRAFFIC ANALYSIS

The long-range design year utilized in the Project Approval/Environmental Document (PA/ED) is 2045; however the current horizon year that is used for long-range forecasting by regional planning authorities such as the Orange County Transportation Authority (OCTA) is the year 2035. As such, year 2035 traffic forecasts have been utilized as the baseline source for long-range traffic conditions, with adjustments applied to represent year 2045 conditions as appropriate.

Year 2035 traffic forecasts were prepared using OCTA’s Orange County Traffic Analysis Model (OCTAM). As the OCTAM forecasts are for year 2035, volumes for the freeway mainline segments were increased to reflect year 2045 conditions using growth factors identified in Table 5 (Demographic Projections). Traffic volumes were obtained from City sub-area traffic models due to the refined nature of the sub-area models in respect to network coding and zone structure.

**Table 5  
Demographic Projections**

	2010	2035
<b>Population</b>	<b>1,002,544</b>	<b>1,248,283</b>
Total Growth		24.50%
Average Annual Growth		1.00%
<b>Employment</b>	<b>612,795</b>	<b>756,899</b>
Total Growth		23.50%
Average Annual Growth		0.90%
Source: Stantec, <i>I-5 Widening Project from SR-73 to El Toro Road PA/ED (EA 0K0200 EFIS 1200000318) Traffic Report</i> , June 2012.		

Existing average daily traffic (ADT) volumes for each freeway segment within the project study area are depicted in Table 1, above, and range from 182,500 to 364,600 ADT, which includes truck volumes that range from 6,388 to 12,761 ADT. Table 6 (Opening Year [2022] Traffic Volumes) depicts the opening year traffic volumes along each segment within the project limits. As shown in Table 6, opening year average daily traffic (ADT) volumes range from 264,000 to 473,000, which include truck volumes that range from 9,240 to 16,555 ADT. Additionally, both Build Alternatives would have truck daily volumes up to 16,590. Although truck volumes exceed 10,000 ADT, this represents approximately 3.5 percent of the total vehicles on I-5. The proposed project would result in an increase in truck volumes of less than one percent, except for the segment between Avery Parkway and Crown Valley Parkway, which would be 1.14 percent for Alternative 3.

**Table 6  
Opening Year (2022) Traffic Volumes**

Location	2022 No Build		2022 Build (Alternative 2)		2022 Build (Alternative 3)	
	ADT	Truck ADT	ADT	Truck ADT	ADT	Truck ADT
<b>I-5 Mainline</b>						
Junipero Serra Road and SR-73	303,000	10,605	303,000	10,605	304,000	10,640
SR-73 and Avery Parkway	303,000	10,605	303,000	10,605	304,000	10,640
Avery and Crown Valley Parkway	264,000	9,240	266,000	9,310	267,000	9,345
Crown Valley Pky. and Oso Parkway	305,000	10,675	307,000	10,745	307,000	10,745
Oso Parkway and La Paz Road	320,000	11,200	322,000	11,270	323,000	11,305
La Paz Road and Alicia Parkway	348,000	12,180	350,000	12,250	351,000	12,285
Alicia Parkway and El Toro Road	385,000	13,475	387,000	13,545	388,000	13,580
El Toro Road and Lake Forest Drive	395,000	13,825	396,000	13,860	396,000	13,860
Lake Forest Drive and I-405	414,000	14,490	415,000	14,525	415,000	14,525
I-405 and Alton Parkway	473,000	16,555	474,000	16,590	474,000	16,590
ADT = Average Daily Traffic; I-5 = Interstate 5						
Source: Stantec, <i>I-5 Widening Project from SR-73 to El Toro Road PA/ED (EA 0K0200 EFIS 1200000318) Traffic Report</i> , June 2012.						

Table 7 (Future Year [2045] Traffic Volumes) depicts the traffic volumes along each freeway segment with each freeway segment within the project study area are for Alternatives 1, 2, and 3. As indicated in Table 7, the highest traffic volumes would occur along I-5 between El Toro Road and Lake Forest Drive for Build Alternative 3. It should be noted that ADT along this segment is projected to be 461,700 with Build Alternative 3, and 457,100 with Alternative 1 No Build Conditions. This traffic increase between the Alternative 1 No Build and Alternative 3 Build scenarios would represent a one percent increase. Additionally, truck ADT would range between 8,000 and 16,000 for all three scenarios. Truck volumes represent approximately 3.5 percent of the overall traffic volume along the I-5 study area.

**Table 7**  
**Future Year (2045) Traffic Volumes**

Roadway Segment	Alternative 1 (No Build)		Alternative 2 (Build)		Alternative 3 (Build)	
	ADT	Truck ADT	ADT	Truck ADT	ADT	Truck ADT
<b>I-5 Mainline</b>						
Ortega Highway and Junipero Serra Road	338,300	11,841	339,600	11,886	340,200	11,907
Junipero Serra Road and SR-73	352,700	12,345	354,000	12,390	354,600	12,411
SR-73 and Avery Parkway	295,500	10,343	301,000	10,535	302,100	10,574
Avery and Crown Valley	307,000	10,745	312,700	10,945	314,000	10,990
Crown Valley Parkway and Oso Parkway	350,700	12,275	356,600	12,481	358,000	12,530
Oso Parkway and La Paz Road	367,200	12,852	373,400	13,069	374,900	13,122
La Paz Road and Alicia Parkway	400,400	14,014	406,900	14,242	408,400	14,294
Alicia Parkway and El Toro Road	441,100	15,439	448,000	15,680	449,500	15,733
El Toro Road and Lake Forest Drive	457,100	15,999	460,700	16,125	461,700	16,160
Lake Forest Drive and I-405	358,400	12,544	361,000	12,635	361,500	12,653
I-405 and Alton Parkway	227,900	7,977	230,500	8,068	231,000	8,085
Alton Parkway and SR-133	324,400	11,354	327,000	11,445	327,500	11,463
Source: Stantec, I-5 Widening Project from SR-73 to El Toro Road PA/ED (EA 0K0200 EFIS 1200000318) Traffic Report, June 2012.						

A summary of existing conditions LOS are provided in Table 8 (Intersection LOS Summary [Caltrans Interchanges] – Existing Conditions) and Table 9 (Intersection LOS Summary [Local Jurisdictions] – Existing Conditions). As depicted in Tables 8 and 9, there are no Caltrans or local intersections that exceed the performance standard of the applicable jurisdiction for existing conditions.

**Table 8**  
**Intersection LOS Summary (Caltrans Interchanges) – Existing Conditions**

Location	AM Peak Hour		PM Peak Hour	
	Delay	LOS	Delay	LOS
1. Bake Parkway & I-5 NB Ramps <sup>1</sup>	36.4	D	8.2	A
2. Bake Parkway & I-5 SB Ramps <sup>1</sup>	14.4	B	21.8	C
3. Lake Forest Drive & I-5 NB Ramps	10.2	B	11.3	B
4. Lake Forest Drive & I-5 SB Ramps <sup>1</sup>	24.4	C	54.0	D
5. El Toro Road & I-5 NB Ramps <sup>1</sup>	24.1	C	40.6	D
6. I-5 SB Ramps & Avenida de la Carlota <sup>1</sup>	24.1	C	35.8	D
7. I-5 NB Ramps & Alicia Parkway	8.3	A	17.4	B
8. I-5 SB Ramps & Alicia Parkway	22.7	C	28.3	C
9. I-5 NB Ramp/Muirlands Boulevard & La Paz Road	22.3	C	25.9	C
10. I-5 SB Ramps/Cabot Road & La Paz Road	30.2	C	53.7	D
11. I-5 NB Ramps & Oso Parkway	16.5	B	32.4	C
12. I-5 SB Ramps & Oso Parkway	11.3	B	18.4	B
13. I-5 NB Ramps & Crown Valley Parkway <sup>1</sup>	27.6	C	21.0	C
14. I-5 SB Ramps & Crown Valley Parkway <sup>1</sup>	30.1	C	47.1	D
15. I-5 NB Ramps & Avery Parkway	14.7	B	16.0	B
16. I-5 SB Ramps & Avery Parkway	16.1	B	19.4	B
17. I-5 NB Ramps & Junipero Serra Road	21.5	C	21.4	C
18. I-5 SB Ramps & Junipero Serra Road	30.7	C	26.4	C
I-5 = Interstate 5; NB = northbound; SB = southbound; LOS = Level of Service				
Notes:				
1. Location with LOS E as maximum acceptable LOS. LOS D is the maximum acceptable LOS unless noted otherwise.				
Source: Stantec, I-5 Widening Project from SR-73 to El Toro Road PA/ED (EA 0K0200 EFIS 1200000318) Traffic Report, June 2012.				

**Table 9**  
**Intersection LOS Summary (Local Jurisdictions) – Existing Conditions**

Location	AM Peak Hour		PM Peak Hour	
	ICU	LOS	ICU	LOS
19. Bake Parkway & Jeronimo Road	0.86	D	0.73	C
20. Bake Parkway & Muirlands Boulevard	0.60	A	0.67	B
21. Bake Parkway & Rockfield Boulevard	0.55	A	0.73	C
22. Bake Parkway & Irvine Center Drive	0.32	A	0.39	A
23. Lake Forest Drive & Jeronimo Road	0.61	B	0.65	B
24. Lake Forest Drive & Muirlands Boulevard	0.50	A	0.72	C
25. Lake Forest Drive & Rockfield Boulevard	0.54	A	0.65	B
26. Irvine Center Drive/Moulton Parkway & Lake Forest Drive <sup>1</sup>	0.38	A	0.45	A
27. El Toro Road & Jeronimo	0.64	B	0.84	D
28. El Toro Road & Muirlands Boulevard	0.58	A	0.72	C
29. El Toro Road & Rockfield Boulevard	0.56	A	0.66	B

**Table 9 (continued)**  
**Intersection LOS Summary (Local Jurisdictions) – Existing Conditions**

Location	AM Peak Hour		PM Peak Hour	
	ICU	LOS	ICU	LOS
30. El Toro Road & Avenida de la Carlota <sup>1</sup>	0.60	A	0.71	C
31. Paseo de Valencia & El Toro	0.46	A	0.59	A
32. El Toro Road & Moulton Parkway <sup>1</sup>	0.53	A	0.59	A
33. Jeronimo Road & Alicia Parkway	0.75	C	0.69	B
34. Alicia Parkway & Muirlands Boulevard	0.72	C	0.79	C
35. Paseo de Valencia & Alicia Parkway	0.61	B	0.60	A
36. Moulton Parkway & Alicia Parkway	0.59	A	0.60	A
37. Marguerite Parkway & La Paz Road	0.60	A	0.67	B
38. La Paz Road & Paseo de Valencia	0.45	A	0.48	A
39. Moulton Parkway & La Paz Road	0.43	A	0.41	A
40. Marguerite Parkway & Oso Parkway	0.75	C	0.71	C
41. Cabot Road & Oso Parkway	0.54	A	0.71	C
42. Moulton Parkway & Oso Parkway	0.49	A	0.59	A
43. Marguerite Parkway & Crown Valley Parkway <sup>1</sup>	0.60	A	0.72	C
44. Cabot Road & Crown Valley Parkway	0.57	A	0.69	B
45. Moulton Parkway & Crown Valley Parkway <sup>1</sup>	0.54	A	0.57	A
46. Camino Capistrano & Paseo de Colinas	0.47	A	0.53	A
47. Cabot Road & Paseo de Colinas	0.60	A	0.51	A
48. Golden Lantern & Paseo de Colinas	0.81	D	0.63	B
49. Marguerite Parkway & Avery Parkway	0.74	C	0.75	C
50. Camino Capistrano & Avery Parkway	0.48	A	0.49	A
51. Rancho Viejo & Junipero Serra Road	0.40	A	0.44	A
52. Camino Capistrano & Junipero Serra Road	0.40	A	0.32	A
Notes:				
1. Location with LOS E as maximum acceptable LOS. LOS D is the maximum acceptable LOS unless noted otherwise.				
Source: Stantec, I-5 Widening Project from SR-73 to El Toro Road PAVED (EA 0K0200 EFIS 1200000318) Traffic Report, June 2012.				

Table 10 (Intersection LOS Summary [Caltrans Interchanges] – 2022 Build and No Build Conditions) and Table 11 (Intersection LOS Summary [Local Jurisdictions] – 2022 Build and No Build Conditions) summarizes the Opening Year delay and LOS within the project area. As shown in Table 10 and Table 11, LOS would generally improve (i.e., delay would be reduced). Build Alternatives 2 and 3 would improve the delay at some of the intersections in the project area and worsen the delay at other intersections in the project area. It should be noted that when compared to the No Build conditions, the delay and LOS for the Build Alternatives would not change significantly for a majority of the intersections.

**Table 10**  
**Intersection LOS Summary (Caltrans Interchanges) – 2022 Build and No Build Conditions**

Location	2022 No Build (Alt 1)				2022 Build (Alt 2)				2022 Build (Alt 3)			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Bake Parkway & I-5 NB Ramps <sup>1</sup>	60.8	E <sup>1</sup>	8.2	A	62.9	E <sup>1</sup>	8.3	A	62.6	E <sup>1</sup>	8.3	A
2. Bake Parkway & I-5 SB Ramps <sup>1</sup>	18.7	B	31.4	C	18.6	B	31.5	C	18.6	B	31.7	C
3. Lake Forest Drive & I-5 NB Ramps	11.3	B	13.7	B	11.3	B	13.7	B	11.3	B	13.7	B
4. Lake Forest Drive & I-5 SB Ramps <sup>1</sup>	27.7	C	78.7	E <sup>1</sup>	27.6	C	79.4	E <sup>1</sup>	27.7	C	79.7	E <sup>1</sup>
5. El Toro Road & I-5 NB Ramps <sup>1</sup>	31.2	C	48.2	D	26.4	C	25.7	C	26.6	C	25.7	C
6. I-5 SB Ramps & Avenida de la Carlota <sup>1</sup>	25.8	C	43.2	D	25.8	C	38.2	D	25.3	C	38.0	D
7. I-5 NB Ramps & Alicia Parkway	9.0	A	17.8	B	8.9	A	17.5	B	9.3	A	17.5	B
8. I-5 SB Ramps & Alicia Parkway	28.0	C	45.8	D	22.2	C	32.7	C	22.4	C	32.8	C
9. I-5 NB Ramp/Muirlands & La Paz	25.1	C	31.7	C	21.7	C	26.9	C	21.4	C	28.7	C
10. I-5 SB Ramps/Cabot Road & La Paz Road	35.8	D	45.6	D	27.3	C	42.0	D	28.1	C	41.6	D
11. I-5 NB Ramps & Oso Parkway	17.4	B	34.1	C	17.4	B	33.2	C	17.4	B	33.6	C
12. I-5 SB Ramps & Oso Parkway	11.3	B	20.0	C	11.3	B	22.1	C	11.4	B	23.0	C
13. I-5 NB Ramps & Crown Valley Parkway <sup>1</sup>	30.5	C	27.1	C	10.7	B	10.3	B	10.9	B	10.0	B
14. I-5 SB Ramps & Crown Valley Parkway <sup>1</sup>	36.2	D	65.1	E <sup>1</sup>	36.0	D	62.8	E <sup>1</sup>	37.2	D	62.6	E <sup>1</sup>
15a. I-5 NB Ramps & Avery Parkway (Option A)	18.4	B	17.3	B	14.3	B	14.6	B	14.3	B	14.5	B
15b. I-5 NB Ramps & Avery Parkway (Option B)	18.4	B	17.3	B	19.0	B	14.0	B	17.6	B	14.0	B
16a. I-5 SB Ramps & Avery Parkway (Option A)	16.3	B	30.4	C	15.6	B	16.7	B	15.7	B	16.7	B
16b. I-5 SB Ramps & Avery Parkway (Option B)	16.3	B	30.4	C	15.0	B	17.5	B	15.8	B	17.1	B
17. I-5 NB Ramps & Junipero Serra Road	23.7	C	21.7	C	24.2	C	21.8	C	24.6	C	21.8	C
18. I-5 SB Ramps & Junipero Serra Road	33.2	C	29.4	C	33.3	C	29.3	C	33.5	C	29.3	C
Location Outside of Project Limits												
Notes:												
1. Location with LOS E as maximum acceptable LOS.												
Source: Stantec, I-5 Widening Project from SR-73 to El Toro Road PA/ED (EA 0K0200 EFIS 1200000318) Traffic Report, June 2012.												

**Table 11**  
**Intersection LOS Summary (Local Jurisdictions) – 2022 Build and No Build Conditions**

Location	2022 No Build (Alternative 1)				2022 Build (Alternative 2)				2022 Build (Alternative 3)			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
19. Bake Parkway & Jeronimo Road	0.79	C	0.75	C	0.79	C	0.75	C	0.79	C	0.75	C
20. Bake Parkway & Muirlands Boulevard	0.64	B	0.73	C	0.64	B	0.72	C	0.64	B	0.73	C
21. Bake Parkway & Rockfield Boulevard	0.59	A	0.80	C	0.60	A	0.80	C	0.61	B	0.80	C
22. Bake Parkway & Irvine Center Drive	0.34	A	0.45	A	0.33	A	0.45	A	0.34	A	0.45	A
23. Lake Forest Drive & Jeronimo Road	0.66	B	0.74	C	0.66	B	0.74	C	0.66	B	0.74	C
24. Lake Forest Drive & Muirlands Boulevard	0.59	A	0.75	C	0.59	A	0.75	C	0.59	A	0.75	C
25. Lake Forest Drive & Rockfield Boulevard	0.62	B	0.74	C	0.62	B	0.74	C	0.62	B	0.74	C
26. Irvine Center Drive/Moulton Parkway & Lake Forest Drive <sup>1</sup>	0.46	A	0.54	A	0.46	A	0.54	A	0.46	A	0.54	A
27. El Toro Road & Jeronimo	0.69	B	0.88	D	0.69	B	0.87	D	0.70	B	0.87	D
28. El Toro Road & Muirlands Boulevard	0.64	B	0.77	C	0.64	B	0.77	C	0.64	B	0.77	C
29. El Toro Road & Rockfield Boulevard	0.59	A	0.69	B	0.59	A	0.69	B	0.59	A	0.69	B
30. El Toro Road & Avenida de la Carlota <sup>1</sup>	0.68	B	0.75	C	0.68	B	0.74	C	0.68	B	0.75	C
31. Paseo de Valencia & El Toro	0.51	A	0.66	B	0.50	A	0.66	B	0.50	A	0.66	B
32. El Toro Road & Moulton Parkway <sup>1</sup>	0.62	B	0.68	B	0.61	B	0.68	B	0.61	B	0.68	B
33. Jeronimo Road & Alicia Parkway	0.76	C	0.73	C	0.76	C	0.72	C	0.76	C	0.71	C
34. Alicia Parkway & Muirlands Boulevard	0.73	C	0.83	D	0.73	C	0.83	D	0.73	C	0.82	D
35. Paseo de Valencia & Alicia Parkway	0.67	B	0.67	B	0.66	B	0.66	B	0.66	B	0.65	B
36. Moulton Parkway & Alicia Parkway	0.64	B	0.64	B	0.63	B	0.63	B	0.62	B	0.63	B
37. Marguerite Parkway & La Paz Road	0.62	B	0.73	C	0.61	B	0.70	B	0.61	B	0.70	B
38. La Paz Road & Paseo de Valencia	0.49	A	0.51	A	0.49	A	0.51	A	0.49	A	0.51	A
39. Moulton Parkway & La Paz Road	0.48	A	0.44	A	0.46	A	0.44	A	0.46	A	0.44	A
40. Marguerite Parkway & Oso Parkway	0.80	C	0.73	C	0.79	C	0.72	C	0.79	C	0.72	C
41. Cabot Road & Oso Parkway	0.56	A	0.75	C	0.58	A	0.73	C	0.59	A	0.74	C
42. Moulton Parkway & Oso Parkway	0.5	A	0.60	A	0.50	A	0.61	A	0.51	A	0.60	A
43. Marguerite Parkway & Crown Valley Parkway <sup>1</sup>	0.74	C	0.81	D	0.74	C	0.82	D	0.74	C	0.82	D
44. Cabot Road & Crown Valley Parkway	0.62	B	0.74	C	0.64	B	0.74	C	0.64	B	0.74	C
45. Moulton Parkway & Crown Valley Parkway <sup>1</sup>	0.62	B	0.68	B	0.62	B	0.68	B	0.63	B	0.68	B
46. Camino Capistrano & Paseo de Colinas	0.53	A	0.56	A	0.53	A	0.44	A	0.53	A	0.43	A
47. Cabot & Paseo de Colinas	0.63	B	0.56	A	0.64	B	0.56	A	0.65	B	0.57	A
48. Golden Lantern & Paseo de Colinas	0.89	D	0.70	B	0.90	D	0.71	C	0.90	D	0.71	C
49. Marguerite Parkway & Avery Parkway	0.80	C	0.83	D	0.76	C	0.71	C	0.76	C	0.72	C
50a. Camino Capistrano & Avery Parkway (Option A)	0.57	A	0.54	A	0.57	A	0.55	A	0.57	A	0.54	A
50b. Camino Capistrano & Avery Parkway (Option B)	0.57	A	0.54	A	0.59	A	0.72	C	0.60	A	0.74	C
51. Rancho Viejo & Junipero Serra	0.47	A	0.49	A	0.46	A	0.49	A	0.47	A	0.49	A
52. Camino Capistrano & Junipero Serra	0.45	A	0.39	A	0.44	A	0.39	A	0.44	A	0.39	A

Source: Stantec, I-5 Widening Project from SR-73 to El Toro Road PA/ED (EA 0K0200 EFIS 1200000318) Traffic Report, June 2012.

A summary of the 2045 Build and No Build conditions LOS are provided in Table 12 (Intersection LOS Summary [Caltrans Interchanges] – 2045 Build and No Build Conditions) and Table 13 (Intersection LOS Summary [Local Jurisdictions] – 2045 Build and No Build Conditions). The intersections that would exceed the performance standard of the applicable jurisdiction are depicted as bold in Table 12 and 13. As shown in Tables 12 and 13, implementation of Build Alternatives 2 and 3 would improve the delay at some of the intersections in the project area and worsen the delay at other intersections in the project area. It should be noted that when compared to the No Build conditions, the delay and LOS for the Build Alternatives would not change significantly for a majority of the intersections. Therefore, a vehicle emission analysis was prepared to determine the effects of proposed project on the region attaining the federal PM<sub>10</sub> and PM<sub>2.5</sub> AAQS.

### **Traffic Emissions Analysis**

The Caltrans' EMISSIONS FACTORS (CT-EMFAC) model was used to estimate PM<sub>10</sub> and PM<sub>2.5</sub> emissions related to mobile exhaust, tire wear, and brake wear for each project alternative under the existing future 2045 years. The CT-EMFAC model does not estimate re-entrained road dust emissions. Therefore, re-entrained road dust emissions were calculated using the empirical equation found in Section 13.2.1 of the EPA's *AP-42 Compilation of Air Pollutant Emission Factors* (updated in January 2011). Emissions were calculated using traffic data within the Traffic Report and supplemental data provided by Stantec (refer to Appendix B [Traffic Data]). Variables to calculate road dust emissions included vehicle miles traveled (VMT), average vehicle weight, AP-42 silt loading factors and particle size coefficients, and precipitation data.

The emission factors from CT-EMFAC are pollutant emissions in grams per mile of vehicle travel. Multiplying these emission factors by the VMT in the project area provides an estimate of the total emissions from vehicles traveling through the project area. VMT for the existing, 2045 No Build and 2045 Build scenarios were based on the traffic volumes and VMT data provided by Stantec, which is summarized in Table 14 (Study Area Vehicle Miles Traveled and Vehicle Hours Traveled). Table 14 also includes Vehicle Hours Traveled (VHT).

**Table 12**  
**Intersection LOS Summary (Caltrans Interchanges) – 2045 Build and No Build Conditions**

Location	2045 No Build (Alt 1)				2045 Build (Alt 2)				2045 Build (Alt 3)			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Bake Parkway & I-5 NB Ramps <sup>1</sup>	49.5	D	11.7	B	54.1	D	12.2	B	57.3	E <sup>1</sup>	12.4	B
2. Bake Parkway & I-5 SB Ramps <sup>1</sup>	31.1	C	57.4	E <sup>1</sup>	30.2	C	57.9	E <sup>1</sup>	29.7	C	58.4	E <sup>1</sup>
3. Lake Forest Drive & I-5 NB Ramps	30.0	C	17.3	B	29.4	C	17.3	B	29.2	C	17.3	B
4. Lake Forest Drive & I-5 SB Ramps <sup>1</sup>	40.3	D	<b>128.2</b>	<b>F</b>	40.6	D	<b>132.7</b>	<b>F</b>	42.7	D	<b>133.8</b>	<b>F</b>
5. El Toro Road & I-5 NB Ramps <sup>1</sup>	45.9	D	<b>82.0</b>	<b>F<sup>1</sup></b>	31.1	C	28.4	C	32.0	C	27.5	C
6. I-5 SB Ramps & Avenida de la Carlota <sup>1</sup>	34.0	C	<b>97.1</b>	<b>F</b>	30.2	C	<b>81.6</b>	<b>F</b>	31.4	C	<b>80.2</b>	<b>F</b>
7. I-5 NB Ramps & Alicia Parkway	14.4	B	30.4	C	10.9	B	30.9	C	14.8	B	30.2	C
8. I-5 SB Ramps & Alicia Parkway	<b>66.6</b>	<b>E</b>	<b>100.5</b>	<b>F</b>	<b>59.9</b>	<b>E</b>	<b>102.1</b>	<b>F</b>	51.7	D	<b>103.0</b>	<b>F</b>
9. I-5 NB Ramp/Muirlands & La Paz	43.5	D	54.5	D	23.2	C	41.4	D	22.8	C	51.2	D
10. I-5 SB Ramps/Cabot Road & La Paz Road	<b>85.8</b>	<b>F</b>	<b>80.5</b>	<b>F</b>	<b>69.3</b>	<b>E</b>	<b>63.2</b>	<b>E</b>	<b>76.5</b>	<b>E</b>	<b>60.6</b>	<b>E</b>
11. I-5 NB Ramps & Oso Parkway	19.9	B	40.1	D	18.6	B	39.8	D	18.1	B	43.7	D
12. I-5 SB Ramps & Oso Parkway	13.0	B	24.4	C	12.7	B	27.4	C	13.3	B	30.0	C
13. I-5 NB Ramps & Crown Valley Parkway <sup>1</sup>	38.2	D	37.8	D	37.8	D	24.4	C	38.0	D	26.1	C
14. I-5 SB Ramps & Crown Valley Parkway <sup>1</sup>	47.5	D	<b>102.5</b>	<b>F</b>	45.1	D	<b>103.6</b>	<b>F</b>	47.0	D	<b>103.7</b>	<b>F</b>
15a. I-5 NB Ramps & Avery Parkway (Option A)	22.3	C	40.9	D	14.7	B	14.9	B	14.5	B	14.6	B
15b. I-5 NB Ramps & Avery Parkway (Option B)	22.3	C	40.9	D	20.4	C	15.9	B	20.2	C	15.6	B
16a. I-5 SB Ramps & Avery Parkway (Option A)	21.9	C	<b>56.1</b>	<b>E</b>	18.9	B	17.6	B	18.9	B	17.8	B
16b. I-5 SB Ramps & Avery Parkway (Option B)	21.9	C	<b>56.1</b>	<b>E</b>	15.7	B	20.7	C	16.2	B	21.4	C
17. I-5 NB Ramps & Junipero Serra Road	58.8	<b>E</b>	<b>69.6</b>	<b>E</b>	<b>67.3</b>	<b>E</b>	<b>70.8</b>	<b>E</b>	<b>75.1</b>	<b>E</b>	<b>71.0</b>	<b>E</b>
18. I-5 SB Ramps & Junipero Serra Road	37.2	D	<b>100.3</b>	<b>F</b>	37.3	D	<b>98.8</b>	<b>F</b>	38.3	D	<b>98.5</b>	<b>F</b>
Location Outside of Project Limits												
Notes:												
1. Location with LOS E as maximum acceptable LOS.												
Source: Stantec, I-5 Widening Project from SR-73 to El Toro Road PA/ED (EA 0K0200 EFIS 1200000318) Traffic Report, June 2012.												

**Table 13**  
**Intersection LOS Summary (Local Jurisdictions) – 2045 Build and No Build Conditions**

Location	2045 No Build (Alternative 1)				2045 Build (Alternative 2)				2045 Build (Alternative 3)			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
19. Bake Parkway & Jeronimo Road	0.82	D	0.90	D	0.81	D	0.90	D	0.81	D	0.89	D
20. Bake Parkway & Muirlands Boulevard	0.75	C	0.93	E	0.75	C	0.94	E	0.76	C	0.94	E
21. Bake Parkway & Rockfield Boulevard	0.72	C	0.89	D	0.72	C	0.89	D	0.73	C	0.89	D
22. Bake Parkway & Irvine Center Drive	0.55	A	0.56	A	0.54	A	0.56	A	0.54	A	0.56	A
23. Lake Forest Drive & Jeronimo Road	0.77	C	0.92	E	0.77	C	0.91	E	0.76	C	0.91	E
24. Lake Forest Drive & Muirlands Boulevard	0.79	C	0.88	D	0.78	C	0.87	D	0.77	C	0.86	D
25. Lake Forest Drive & Rockfield Boulevard	0.84	D	0.91	E	0.83	D	0.90	D	0.83	D	0.90	D
26. Irvine Center Drive/Moulton Parkway & Lake Forest Drive <sup>1</sup>	0.60	A	0.81	D	0.60	A	0.80	C	0.61	B	0.80	C
27. El Toro Road & Jeronimo	0.92	E	0.95	E	0.92	E	0.93	E	0.93	E	0.93	E
28. El Toro Road & Muirlands Boulevard	0.80	C	0.89	D	0.80	C	0.89	D	0.80	C	0.89	D
29. El Toro Road & Rockfield Boulevard	0.66	B	0.79	C	0.65	B	0.80	C	0.65	B	0.79	C
30. El Toro Road & Avenida de la Carlota <sup>1</sup>	0.87	D	0.83	D	0.88	D	0.81	D	0.89	D	0.81	D
31. Paseo de Valencia & El Toro	0.57	A	0.83	D	0.55	A	0.82	D	0.55	A	0.82	D
32. El Toro Road & Moulton Parkway <sup>1</sup>	0.85	D	0.93	E <sup>1</sup>	0.80	D	0.90	D	0.79	C	0.88	D
33. Jeronimo Road & Alicia Parkway	0.81	D	0.80	C	0.79	C	0.77	C	0.79	C	0.77	C
34. Alicia Parkway & Muirlands Boulevard	0.76	C	0.96	E	0.75	C	0.94	E	0.76	C	0.93	E
35. Paseo de Valencia & Alicia Parkway	0.79	C	0.83	D	0.77	C	0.81	D	0.75	C	0.81	D
36. Moulton Parkway & Alicia Parkway	0.68	B	0.71	C	0.65	B	0.66	B	0.64	B	0.65	B
37. Marguerite Parkway & La Paz Road	0.66	B	0.85	D	0.67	B	0.81	D	0.65	B	0.78	C
38. La Paz Road & Paseo de Valencia	0.58	A	0.59	A	0.54	A	0.60	A	0.54	A	0.60	A
39. Moulton Parkway & La Paz Road	0.56	A	0.53	A	0.52	A	0.53	A	0.51	A	0.51	A
40. Marguerite Parkway & Oso Parkway	0.90	D	0.81	D	0.87	D	0.80	C	0.88	D	0.82	D
41. Cabot Road & Oso Parkway	0.62	B	0.81	D	0.68	B	0.80	C	0.69	B	0.83	D
42. Moulton Parkway & Oso Parkway	0.57	A	0.67	B	0.54	A	0.66	B	0.55	A	0.67	B
43. Marguerite Parkway & Crown Valley Parkway <sup>1</sup>	1.00	E <sup>1</sup>	1.07	F	1.00	E <sup>1</sup>	1.07	F	1.00	E <sup>1</sup>	1.05	F
44. Cabot Road & Crown Valley Parkway	0.81	D	0.83	D	0.80	D	0.85	D	0.80	C	0.83	D
45. Moulton Parkway & Crown Valley Parkway <sup>1</sup>	0.84	D	0.91	E <sup>1</sup>	0.82	D	0.90	D	0.84	D	0.89	D
46. Camino Capistrano & Paseo de Colinas	0.67	B	0.64	B	0.66	B	0.50	A	0.65	B	0.48	A
47. Cabot & Paseo de Colinas	0.68	B	0.72	C	0.71	C	0.72	C	0.72	C	0.75	C
48. Golden Lantern & Paseo de Colinas	1.10	F	0.89	D	1.11	F	0.89	D	1.11	F	0.90	D
49. Marguerite Parkway & Avery Parkway	0.99	E	1.04	F	0.85	D	0.86	D	0.84	D	0.85	D
50a. Camino Capistrano & Avery Parkway (Option A)	0.77	C	0.67	B	0.77	C	0.67	B	0.78	C	0.65	B
50b. Camino Capistrano & Avery Parkway (Option B)	0.77	C	0.67	B	0.69	B	0.86	D	0.69	B	0.86	D
51. Rancho Viejo & Junipero Serra	0.59	B	0.62	B	0.59	B	0.62	B	0.60	B	0.61	B
52. Camino Capistrano & Junipero Serra	0.57	B	0.58	A	0.57	B	0.59	A	0.57	B	0.59	A

Source: Stantec, I-5 Widening Project from SR-73 to El Toro Road PA/ED (EA 0K0200 EFIS 120000318) Traffic Report, June 2012.

**Table 14**  
**Study Area Vehicle Miles Traveled and Vehicle Hours Traveled**

Scenario <sup>1</sup>	Project Corridor		Surrounding Area					Total	
	Freeway/ Ramps	HOV	Toll Road	Primary Arterial	Secondary Arterial	Local Streets	Smart Streets		
<b>Vehicle Miles Traveled</b>									
Existing	3,182,757	398,087	166,417	1,658,200	56,220	4,822	N/A	5,466,502	
Opening Year (2022)	Alt. 1	3,425,255	454,546	185,561	1,674,083	66,994	5,386	116,747	5,928,542
	Alt. 2	3,449,362	455,906	180,661	1,666,483	66,898	5,313	113,140	5,937,763
	<i>Percent Change<sup>2</sup></i>	<i>0.70%</i>	<i>0.30%</i>	<i>-2.64%</i>	<i>-0.45%</i>	<i>-0.14%</i>	<i>-1.36%</i>	<i>-3.09%</i>	<i>0.16%</i>
	Alt. 3	3,458,175	454,173	180,119	1,664,700	67,016	5,340	112,202	5,941,725
	<i>Percent Change<sup>2</sup></i>	<i>0.96%</i>	<i>-0.08%</i>	<i>-2.93%</i>	<i>-0.56%</i>	<i>0.03%</i>	<i>-0.85%</i>	<i>-3.89%</i>	<i>0.22%</i>
Horizon Year (2045)	Alt. 1	3,889,661	562,690	222,231	1,704,507	87,631	6,467	340,370	6,813,557
	Alt. 2	3,960,030	566,656	207,945	1,682,349	87,351	6,253	329,853	6,840,437
	<i>Percent Change<sup>2</sup></i>	<i>1.81%</i>	<i>0.70%</i>	<i>-6.43%</i>	<i>-1.30%</i>	<i>-0.32%</i>	<i>-3.31%</i>	<i>-3.09%</i>	<i>0.39%</i>
	Alt. 3	3,985,723	561,604	206,365	1,677,151	87,694	6,333	327,120	6,851,989
	<i>Percent Change<sup>2</sup></i>	<i>2.47%</i>	<i>-0.19%</i>	<i>-7.14%</i>	<i>-1.60%</i>	<i>0.07%</i>	<i>-2.07%</i>	<i>-3.89%</i>	<i>0.56%</i>
<b>Vehicle Hours Traveled</b>									
Existing	54,535	6,130	2,560	46,208	1,639	161	N/A	111,231	
Opening Year (2022)	Alt. 1	58,505	6,999	2,854	46,705	1,948	180	3,064	120,255
	Alt. 2	58,890	7,020	2,779	46,494	1,945	177	2,972	120,276
	<i>Percent Change<sup>2</sup></i>	<i>0.66%</i>	<i>0.30%</i>	<i>-2.63%</i>	<i>-0.45%</i>	<i>-0.15%</i>	<i>-1.67%</i>	<i>-3.00%</i>	<i>0.02%</i>
	Alt. 3	59,032	6,993	2,770	46,446	1,949	179	2,949	120,317
	<i>Percent Change<sup>2</sup></i>	<i>0.90%</i>	<i>-0.09%</i>	<i>-2.94%</i>	<i>-0.55%</i>	<i>0.05%</i>	<i>-0.56%</i>	<i>-3.75%</i>	<i>0.05%</i>
Horizon Year (2045)	Alt. 1	66,110	8,664	3,418	47,658	2,542	216	8,932	137,540
	Alt. 2	67,231	8,725	3,198	47,042	2,533	208	8,664	137,602
	<i>Percent Change<sup>2</sup></i>	<i>1.70%</i>	<i>0.70%</i>	<i>-6.44%</i>	<i>-1.29%</i>	<i>-0.35%</i>	<i>-3.70%</i>	<i>-3.00%</i>	<i>0.05%</i>
	Alt. 3	67,645	8,647	3,174	46,902	2,543	211	8,598	137,719
	<i>Percent Change<sup>2</sup></i>	<i>2.32%</i>	<i>-0.20%</i>	<i>-7.14%</i>	<i>-1.59%</i>	<i>0.04%</i>	<i>-2.31%</i>	<i>-3.74%</i>	<i>0.13%</i>
Notes:									
1. Alternative 1 is the No Build Scenario. Alternative 2 and 3 are the Build Scenarios.									
2. Percent change is the change from No Build conditions.									
Source: VMT and VHT data provided by Stantec on July 10, 2012; refer to Appendix B.									

As indicated in Table 14, Horizon Year VMT associated with Build Alternatives 2 and 3 would increase from the No Build Alternative by 0.39 percent and 0.56 percent, respectively. However, Horizon Year VHT associated with Build Alternatives 2 and 3 would increase from the No Build Alternative by 0.05 percent and 0.13 percent, respectively. As a result, VMT would increase at a higher rate than VHT, which indicates that although traffic volumes increase slightly, congestion and travel time would decrease with implementation of the Build Alternatives. Additionally, while VMT and VHT would increase

within the project corridor slightly, VMT and VHT within the surrounding area would decrease when compared to No Build conditions.

Table 15 (Daily PM<sub>10</sub> and PM<sub>2.5</sub> Emissions) presents the estimated emissions from traffic in the project area; refer to Appendix C (Emissions Modeling and Calculations). The data indicates that particulate matter emissions would not vary significantly between future Build and No Build conditions. Under the Build Alternatives (both Opening Year and Horizon Year), emissions along the project corridor would generally increase slightly from Alternative 1 No Build Conditions; however, emissions within the surrounding area would decrease slightly. The surrounding area includes arterial roadways and intersections in the vicinity of the project. It should be noted that although emissions generally increase with the build alternatives, opening year Alternative 2 exhaust emissions would be slightly lower than Alternative 1 (No Build) conditions. The emissions increase along the project corridor and the decrease in the surrounding areas correspond to the slight shift in VMT from the surrounding area to the project corridor. As a result, the improvements along the freeway corridor would improve the operations and functionality of the ramps and freeway mainline, and would also divert traffic from the surrounding areas to the improved freeway corridor.

It should be noted that emissions would likely be lower than those depicted in Table 15, due to various EPA national emissions control programs that are projected to reduce mobile source emissions. These control measures include retrofit measures that help reduce the future emissions, creating a decreasing trend in background concentrations that would help offset any increase in VMT-related emissions in the future years. Furthermore, CARB has adopted a Diesel Risk Reduction Plan (DRRP) with control measures that would reduce overall diesel particulate matter emissions by about 85 percent from 2000 to 2020.

**Table 15**  
**Daily PM<sub>10</sub> and PM<sub>2.5</sub> Emissions**

Scenario <sup>1</sup>	Emissions (lbs/day)								
	Project Corridor				Surrounding Area				
	PM <sub>10</sub>		PM <sub>2.5</sub>		PM <sub>10</sub>		PM <sub>2.5</sub>		
	Exhaust/ Break/Tire Wear	Road Dust	Exhaust/ Break/Tire Wear	Road Dust	Exhaust/ Break/Tire Wear	Road Dust	Exhaust/ Break/Tire Wear	Road Dust	
Existing	179.98	867.99	165.62	213.05	85.92	457.08	78.38	112.19	
Opening Year (2022)	Alt. 1	166.00	940.45	154.39	230.84	80.73	496.62	74.96	121.90
	Alt. 2	165.67	1,097.26	153.97	232.35	80.00	492.67	74.26	120.93
	Alt. 3	166.52	948.35	154.77	232.78	79.81	491.92	74.08	120.74
Horizon Year (2045)	Alt. 1	184.93	1,079.24	170.89	264.90	94.41	572.35	87.43	140.49
	Alt. 2	191.40	1,097.26	191.40	269.33	92.37	560.85	85.49	137.66
	Alt. 3	193.84	1,102.26	193.84	270.56	91.75	558.65	84.92	137.12
Notes:									
1. Alternative 1 is the No Build Scenario. Alternative 2 and 3 are the Build Scenarios.									
Source: California Department of Transportation and University of California, Davis, <i>CT-EMFAC</i> , 2007. Based on traffic data provided by Stantec. Refer to Appendix C for calculations and modeling outputs.									

## 5.0 CONCLUSION

The proposed I-5 Widening project would maximize overall performance within the project limits; reduce congestion on I-5 within the project limits; provide intermittent auxiliary lanes, where needed, to relieve congestion at diverge and merge locations; minimize right-of-way acquisition; and relieve congestion within interchange areas, on- and off-ramps, and local intersections. The proposed project would add general purpose lanes in each direction on I-5 between Avery Parkway and Alicia Parkway, extend the 2<sup>nd</sup> High Occupancy Vehicle (HOV) lane from Alicia Parkway to El Toro Road, reestablish existing auxiliary lanes and construct new auxiliary lanes, and improve several existing on- and off-ramps.

Transportation conformity is required under FCAA section 176(c) (42 USC 7506(c)) and requires that no federal dollars be used to fund a transportation project unless it can be clearly demonstrated that the project would not cause or contribute to new violations of the NAAQS, increase the frequency or severity of any existing violation, or delay timely attainment of the NAAQS. As required by Final EPA rule published on March 10, 2006, this qualitative assessment demonstrates that the proposed project meets the FCAA conformity requirements and would not conflict with state and local measures to improve regional air quality.

Implementation of the proposed project would not result in new violations of the federal PM<sub>10</sub> or PM<sub>2.5</sub> air quality standards for the following reasons:

- Based on representative monitoring data, ambient PM<sub>10</sub> and PM<sub>2.5</sub> are on a declining trend (refer to Table 2).
- Based on representative monitoring data, PM<sub>10</sub> and PM<sub>2.5</sub> 24-hour concentrations have exceeded the national standard of 150 µg/m<sup>3</sup> and 35 µg/m<sup>3</sup>, respectively, one time in the past three years at the Mission-Viejo Monitoring Station. PM<sub>10</sub> and PM<sub>2.5</sub> 24-hour concentrations have exceeded the national standard seven times in the past three years at the Anaheim-Pampas Lane Monitoring Station. It should be noted that the Anaheim-Pampas Lane Monitoring Station represents air quality closer to I-5; however, the freeway segment adjacent to this monitoring station has approximately twice as many daily heavy trucks as the project study area.
- In general, construction of either Build Alternative would result in improved level of service in the local project region as a whole, as the project increases efficiency of the roadway, resulting in improvements in sub-regional emissions beyond the immediate project area.
- Construction of either Build Alternative would result in improvement to overall speeds in the local project corridor and project region. Although project corridor emissions would increase slightly due to higher demand, traffic volumes in the surrounding area would decrease and overall operations within the surrounding project area would improve.
- The proposed project would not induce development in the area, but would accommodate projected growth and development by improving the mobility and operations of the roadway network in the project area.
- The proposed project would not result in a substantial increase in diesel truck percentages in the project area (i.e., heavy truck volumes would remain around approximately 3.5 percent of total volumes during both the No Build Alternative and Build Alternative).

- The proposed project would extend the 2<sup>nd</sup> HOV lanes from Alicia Parkway to El Toro Road, which would improve HOV capacity, which would encourage carpooling and discourage single occupant vehicle trips.
- VHT associated with Build Alternatives 2 and 3 would increase from the No Build Alternative by 0.05 percent and 0.13 percent, respectively. VMT would increase at a higher rate than VHT, which indicates that although traffic volumes increase slightly, congestion and travel time would decrease with implementation of the Build Alternatives.
- Although emissions would slightly increase along the project corridor with the Build Alternatives, emissions within the surrounding area would decrease slightly (the surrounding area includes arterial roadways and intersections in the vicinity of the project). This indicates that traffic in the project area would shift from the arterials and local roads to the freeway with implementation of the proposed project. The improvements along the project corridor would improve the operations and functionality of the ramps and freeway mainline, and would also divert traffic from the surrounding areas, which would also reduce emission in the surrounding area. Thus, the project would not result in a new exceedance or delay attainment of the federal PM<sub>10</sub> and PM<sub>2.5</sub> standards.

For these reasons, future or worsened PM<sub>10</sub> or PM<sub>2.5</sub> violations of any standards are not anticipated. Therefore, the proposed project meets the conformity hot spot requirements in 40 CFR 93.116 and 93.126 for PM<sub>10</sub> and PM<sub>2.5</sub>.

## **6.0 REFERENCES**

### **6.1 DOCUMENTS**

1. California Air Resources Board, *The California Almanac of Emissions and Air Quality*, 2009.
2. Environmental Protection Agency, *Transportation Conformity Guidance for Qualitative Hot-Spot Analyses in PM<sub>2.5</sub> and PM<sub>10</sub> Nonattainment and Maintenance Areas*, March 2006.
3. South Coast Air Quality Management Agency, *2007 Air Quality Management Plan, South Coast Air Basin*, June 2007.
4. Stantec, *I-5 Widening Project from SR-73 to El Toro Road PA/ED (EA 0K0200 EFIS 1200000318) Traffic Report*, June 2012.

### **6.2 WEB SITES/PROGRAMS**

California Air Resources Board, Aerometric Data Analysis and Management (ADAM) Air Quality Data [www.arb.ca.gov](http://www.arb.ca.gov).

CT-EMFAC: A Computer Model to Estimate Transportation Project Emissions, December 10, 2007.  
[http://www.dot.ca.gov/hq/env/air/pages/ctemfac\\_license.htm](http://www.dot.ca.gov/hq/env/air/pages/ctemfac_license.htm)

South Coast Air Quality Management District, [www.aqmd.gov](http://www.aqmd.gov).

Southern California Association of Government, Transportation Conformity Working Group (TCWG), <http://www.scag.ca.gov/tcwg/>.

## **APPENDIX**

## **A. RTP and FTIP Conformity Documentation**

County	System	Lead Agency	RTP ID	FTIP ID	Begin PM	End PM	Route Number	Route Name	From	To	Description	Roadway Segment: Route Name	Roadway Segment: Length	Roadway Segment: From	Roadway Segment: To	Roadway Segment: Description	Roadway Segment: Existing Lanes	Roadway Segment: Proposed Lanes	Transit Segment: Route	Additional Details	RTP Baseline	2008	2012	2014	2018	2020	2023	2030	2035										
Orange	Transit	ANAHEIM	ORA120318	ORA120318	0	0	0				ANAHEIM REGIONAL TRANS INTERMODAL CENTER (ARTIC) PHASE I - INCLUDE EXPAND OF EXIST AMTRAK/METROLINK STATION AT ANA STAD TO PROVIDE ACCESS W/ TRANS SVC								N/A		X																		
Orange	Transit	FULLERTON	ORA020113	ORA020113	0	0	0				FULLERTON TRAIN STATION - PARKING STRUCTURE, PHASE I AND II. TOTAL OF 800 SPACES (PPNO 2026)								N/A		X	X																	
Orange	Transit	ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA030612	ORA030612	0	0	0				PLACENTIA TRANSIT STATION - E OF SR-57 AND MELROSE ST AND N OF CROWTHER AVE. CONSTRUCT NEW METROLINK STATION AND RAIL SIDEING PPNO 9514								N/A					X															
Orange	Transit	ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA55241	ORA55241	0	0	0				PURCHASE (1) STANDARD 40 FT REPLACEMENT ALT FUEL BUSES - (1) IN FY15/16											X				X													
Orange	Transit	ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA041501	ORA041501	0	0	0				PURCHASE (71) STANDARD 30FT EXPANSION BUSES - ALTERNATIVE FUEL - (31) IN FY08-09, (9) IN FY09-10, (7) IN FY11-12, (6) IN FY12-13 AND (18) IN FY13-14									0		X				X													
Orange	Transit	ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA041501	ORA041501	0	0	0				PURCHASE (71) STANDARD 30FT EXPANSION BUSES - ALTERNATIVE FUEL - (31) IN FY08-09, (9) IN FY09-10, (7) IN FY11-12, (6) IN FY12-13 AND (18) IN FY13-14									N/A		X				X													
Orange	Transit	ORANGE COUNTY TRANS AUTHORITY (OCTA)	2L207	ORA100099	0	0	0				Route 792/A Riverside/Corona to Anaheim Resort Area Express Bus Service									N/A				X															
Orange	State Highway	ORANGE COUNTY TRANS AUTHORITY (OCTA)	2120010				0	Continuous Access HOV			Complete continuous access conversion of the Orange County HOV system where feasible.														X														
Orange	State Highway	CALTRANS	2H01143				5	I-5	Avenida Pico	San Juan Creek Road	Add 1 HOV lane each direction from Avenida Pico to San Juan Creek Road and reconfigure Avenida Pico interchange																												
Orange	State Highway	CALTRANS	2H0702				5	I-5	Barranca Parkway		Barranca Parkway HOV interchange improvement - Add SB HOV on-ramp and NB HOV off-ramp																												
Orange	State Highway	CALTRANS	2M0731				5	I-5	EL TORO Y TRUCK BYPASS	SR-55	Add 1 MF lane each direction and merging improvements.																												
Orange	State Highway	CALTRANS	2M0717				5	I-5	Los Alisos		Add ramps at Los Alisos																												
Orange	State Highway	ORANGE COUNTY TRANS AUTHORITY (OCTA)	2M0718				5	I-5	Marguerite Parkway		Add new interchange at Marguerite Parkway (Saddleback CC Connection)																												
Orange	State Highway	CALTRANS	2H0703				5	I-5	SR-55	SR-57	ADD 1 HOV LANE EACH DIRECTION; RECONSTRUCT THE FIRST ST/FOURTH ST IC ON SB I-5 TO INCREASE WEAVING LENGTH TO STANDARD; EXTEND MERGE LANES BY 100 FEET																												
Orange	State Highway	CALTRANS	2M0732				5	I-5	SR-57	SR-91	Add 1 lane each direction (57 TO 91)																												
* Orange	State Highway	CALTRANS	2M0730				5	I-5	SR-73	El Toro Rd	Add 2 GP lanes from Avery to Alicia in both directions; extend 2nd HOV from El Toro to Alicia in both directions; provide operational improvements; and reconfigure interchanges at Avery Pkwy & La Paz																												
Orange	State Highway	CALTRANS	2M04109A				5	I-5	Stonehill Dr		Add southbound I-5 off-ramp at Stonehill																												
Orange	State Highway	ANAHEIM	ORA000100	ORA000100	34	43.5	5				GENE AURY WAY WEST @ I-5 (I-5 HOV TRANSITWAY TO HASTER) ADD OVERCROSSING ON I-5 (S)/MANCHESTER AND EXTEND GENE AURY WAY WEST FROM I-5 TO HASTER (3 LANES IN EA DIR.)	5	9.5	Gene Aury Way	Hester	GENE AURY WAY WEST @ I-5 (I-5 HOV TRANSITWAY TO HASTER) ADD OVERCROSSING ON I-5 (S)/MANCHESTER AND EXTEND GENE AURY WAY WEST FROM I-5 TO HASTER (3 LANES IN EA DIR.)	1	3				X			X														
Orange	State Highway	CALTRANS	ORA120359	ORA120359	27.5	28.1	5				I-5 @ JAMBOREE - CONSTRUCT AUX LN ON I-5 SB; WIDEN SB OFF-RAMP FROM 1 TO 2 LANES; AND WIDENING JAMBOREE RD EB UNDERCROSSING TO CREATE A TURN LANE TO NB ON-RAMP PPNO 2806B	5	0.6	I-5	Jamboree	Aux Lane		1	2			X			X														
Orange	State Highway	LAGUNA HILLS	ORA000122	ORA000122	16.53	16.53	5				I-5 @ LA PAZ INTERCHANGE IMPROVEMENTS. EXPAND LA PAZ RD. FROM 4 TO 6 LANES TOTAL. (99-LHILL-GMA-1125)	5	0	La Paz	I-5	Road improvements	4	6			X				X														
Orange	State Highway	ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA020109	ORA020109	8.4	8.7	5				I-5 AT CAMINO CAPISTRANO INTERSECTION IMPROVEMENT. WIDEN S/B OFFRAMP FROM 2 TO 3 LANES. PPNO 2615. DUAL LEAD. OCTA PAVED. CALTRANS PS&E ROW AND CON	5	0.3	Camino Capistrano	I-5	WIDEN S/B OFFRAMP FROM 2 TO 3 LANES	2	3			X				X														
Orange	State Highway	CALTRANS	ORA030602	ORA030602	5.6	6	5				IN SAN CLEMENTE - SB CAMINO DE ESTRELLA - WIDEN OFF RAMP FROM 1 TO 2 LANES AND WIDEN OVERCROSSING FROM 5 TO 7 LANES (1 W/B LEFT TURN LANE AND 1 E/B LANE), EA OF0600, SHOPP, Mobility	5	0.4	Camino De Estrella off ramp	Camino De Estrella off ramp	Widen Off ramp	1	2			X				X														
Orange	State Highway	CALTRANS	ORA030602	ORA030602	5.6	6	5				IN SAN CLEMENTE - SB CAMINO DE ESTRELLA - WIDEN OFF RAMP FROM 1 TO 2 LANES AND WIDEN OVERCROSSING FROM 5 TO 7 LANES (1 W/B LEFT TURN LANE AND 1 E/B LANE), EA OF0600, SHOPP, Mobility	Camino De Estrella	800	5.6 Calle Naranja	6 Avenida Las Palmas	Widen Overcrossing	5	7			X				X														
Orange	State Highway	CALTRANS	ORA030604	ORA030604	13.7	15	5				IN THE CITY OF MISSION VIEJO SB OFFRAMP AT CROWN VALLEY PARKWAY - WIDEN OFF RAMP FROM 4 TO 5 LANES. SHOPP project EA 12-0F8201	5	1.3	Crown Valley Parkway SB Off ramp	Crown Valley Parkway SB Off ramp	Widen Off ramp	4	5			X				X														
Orange	State Highway	ORANGE COUNTY TRANS AUTHORITY (OCTA)	2H01143	ORA990929	3	3.7	5				Interstate 5 Add 1 HOV in each direction from South of Avenida Pico to South of Avenida Vista Hermosa and Reconfigure Avenida Pico Interchange. PPNO:2531D	5	0.7	Avenida Pico	Avenida Vista Hermosa	Add 1 HOV lane in each direction	4	5																					
Orange	State Highway	ORANGE COUNTY TRANS AUTHORITY (OCTA)	2H01143	ORA111002	3.7	6.2	5				Interstate 5 Add 1 HOV in each direction from South of Avenida Vista Hermosa to South of Pacific Coast Highway. PPNO 2531E	5	2.5	Avenida Vista Hermosa	Pacific Coast Highway	Add 1 HOV lane in each direction	4	5																					
Orange	State Highway	ORANGE COUNTY TRANS AUTHORITY (OCTA)	2H01143	ORA111001	6.2	8.7	5				Interstate 5 Add 1 HOV in each direction from South of Pacific Coast Highway to San Juan Creek Road. PPNO:2531F	5	2.5	Pacific Coast Highway	San Juan Creek Road	Add 1 HOV lane in each direction	4	5																					
Orange	State Highway	SAN JUAN CAPISTRANO	ORA120326	ORA120326	0.01	1.6	5				RECONSTRUCT I-5/SR-74 INTERCHANGE (IN SAN JUAN CAPISTRANO, ON ROUTE 74 FROM ROUTE 5 TO EAST OF THE CITY LIMIT. RECONSTRUCT THE ROUTE 74 AND ROUTE 5 INTERCHANGE) PPNO 4102 DUAL LEAD SJC CALTRANS	5	1.59	San Juan Capistrano Rte 74	Rte 5	RECONSTRUCT I-5/SR-74 INTERCHANGE	4	4			X																		
Orange	State Highway	CALTRANS	ORA000193	ORA000193	0.01	0.65	22				HOV connectors from SR-22 to I-405, between Seal Beach Blvd. (I-405 PM 022.558) and Valley View St. (SR-22 PM R000.917), with a second HOV lane in each direction on I-405 between the two direct connectors.	22	0.64	Seal Beach Blvd.	Valley View St.	HOV Connectors from SR-22 to I-405	1	2			X																		
Orange	State Highway	CALTRANS	ORA000195	ORA000195	0.66	13.23	22				ON SR-22 (I-405 TO SR55) ADD 2 HOV LANES/1 EA DIR (FRM 0 - 2) & 2 AUX LANES/1 EA DIR (FRM 0 - 2) (I-5 TO BEACH) & OPERATING IMPROVMENTS (SEE COMMENTS) TCRP PAYBACK WHEN AVAILABLE	22	0	.66 Beach	13.23 I-5	auxillary lanes	0	1			X																		
Orange	State Highway	CALTRANS	ORA000195	ORA000195	0.66	13.23	22				ON SR-22 (I-405 TO SR55) ADD 2 HOV LANES/1 EA DIR (FRM 0 - 2) & 2 AUX LANES/1 EA DIR (FRM 0 - 2) (I-5 TO BEACH) & OPERATING IMPROVMENTS (SEE COMMENTS) TCRP PAYBACK WHEN AVAILABLE	22	0	.66 I-5	13.23 Beach	auxillary lanes	0	1			X																		
Orange	State Highway	CALTRANS	ORA000195	ORA000195	0.66	13.23	22				ON SR-22 (I-405 TO SR55) ADD 2 HOV LANES/1 EA DIR (FRM 0 - 2) & 2 AUX LANES/1 EA DIR (FRM 0 - 2) (I-5 TO BEACH) & OPERATING IMPROVMENTS (SEE COMMENTS) TCRP PAYBACK WHEN AVAILABLE	22	12.57	I-405	SR-55	HOV connector	8	12			X																		
Orange	State Highway	CALTRANS	2M0733				55	SR-55	I-405	SR-91	ADD 1 MF LANE EACH DIRECTION AND FIX CHOKEPOINTS FROM I-405 TO SR-22; ADD 1 AUX LANE EA DIR BTWN SELECT ON/OFF RAMP AND OPERATIONAL IMPROVEMENTS THROUGH PROJECT LIMITS																												

## 2011 Federal Transportation Improvement Program

Orange County  
State Highway  
Including Amendments 1-15 and 17-26  
(In \$000's)

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	System	Conformity Category	Amendment	
ORA120401	Orange	SCAB		ORA120401	NCR42	5	4.9	5	S	EXEMPT - 93.126	1	
Description:							PTC	4,995	Agency	ORANGE COUNTY TRANS AUTHORITY (OCTA)		
SOUTHBOUND INTERSTATE 5 FROM EL CAMINO REAL TO AVENIDA RAMONA - SOUNDWALL DESIGN AND CONSTRUCTION PPNO 2544B. DUAL LEAD AGENCY OCTA FOR PA&ED AND PS&E CALTRAN LEAD FOR ROW CON												
Fund	ENG	R/W	CON	Total	Prior	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	Total
STATE CASH - RIP	646	111	4,238	4,995	757	4,238						4,995
ORA120401 Total	646	111	4,238	4,995	757	4,238						4,995

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	System	Conformity Category	Amendment	
ORA030602	Orange	SCAB		ORA030602	CAR63	5	5.6	6	S	NON-EXEMPT	0	
Description:							PTC	13,493	Agency	CALTRANS		
IN SAN CLEMENTE - SB CAMINO DE ESTRELLA - WIDEN OFF RAMP FROM 1 TO 2 LANES AND WIDEN OVERCROSSING FROM 5 TO 7 LANES (1 W/B LEFT TURN LANE AND 1 E/B LANE), EA OF0600, SHOPP, Mobility												
Fund	ENG	R/W	CON	Total	Prior	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	Total
SHOPP - ADVANCE CONSTRUCTION	5,247	1,509	6,737	13,493					13,493			13,493
ORA030602 Total	5,247	1,509	6,737	13,493					13,493			13,493

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	System	Conformity Category	Amendment	
ORA111001	Orange	SCAB		2H01143	CAY69	5	6.2	8.7	S	NON-EXEMPT	23	
Description:							PTC	63,093	Agency	ORANGE COUNTY TRANS AUTHORITY (OCTA)		
Interstate 5 Add 1 HOV in each direction from South of Pacific Coast Highway to San Juan Creek Road. PPNO:2531F												
Fund	ENG	R/W	CON	Total	Prior	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	Total
CMAQ	2,067		15,084	17,151			2,067	15,084				17,151
ORANGE M2 - FREEWAY	4,196	168	20,789	25,153	1,500		2,706	20,947				25,153
STATE LOCAL PARTNER			20,789	20,789				20,789				20,789
ORA111001 Total	6,263	168	56,662	63,093	1,500		4,773	56,820				63,093

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	System	Conformity Category	Amendment	
*ORA111801	Orange	SCAB		2M0730	CAX63	5	12.6	18.7	S	NON-EXEMPT	23	
Description:							PTC	6,984	Agency	ORANGE COUNTY TRANS AUTHORITY (OCTA)		
I-5 Widening (Avery Parkway to Alicia Parkway) - One Lane in Each Directions (4-5 lanes each direction) and reconstruction of La Paz and Avery Parkway interchanges												
Fund	ENG	R/W	CON	Total	Prior	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	Total
FFY 2006 APPROPRIATIONS EARMARKS	984			984				984				984
STP LOCAL - REGIONAL	5,000			5,000			5,000					5,000
ORANGE M2 - FREEWAY	1,000			1,000			1,000					1,000
ORA111801 Total	6,984			6,984			6,000	984				6,984

## **B. Traffic Data**

Existing

AM Peak Period VMT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	21535	28602.4	50137.4
Freeway	0	0	0	0	0	33177.5	31985.3	67494.5	23116.3	72218.6	161827.7	78797.4	75445.3	0	544062.6
Major	0	0	0	4485.1	21805.2	7819.7	55501.3	106371.4	46475.4	1254	0	0	0	0	243712.1
Primary	0	0	587.4	7617.6	22505.3	30970	40274.8	70184.4	12830.2	0	0	0	0	0	184969.7
Secondary	0	0	0	0	1930.9	3832.8	4923.9	5903.3	0	0	0	0	0	0	16590.9
Local	0	0	0	0	0	0	1595.8	0	0	0	0	0	0	0	1595.8
Smart Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOV Lanes	0	0	0	0	0	0	0	0	12384.5	7249.8	0	26449.5	27972.2	27245.1	101301.1
Ramps	760.6	6270.6	4357.5	2270.3	2275.1	10981.8	2723.6	1872.9	0	10800.9	0	0	0	0	42313.3
Centroid Connector	0	0	0	0	0	0	42022	0	0	0	0	0	0	0	42022
<b>TOTAL</b>	<b>760.6</b>	<b>6270.6</b>	<b>4944.9</b>	<b>14373</b>	<b>48516.5</b>	<b>86781.8</b>	<b>179026.7</b>	<b>251826.5</b>	<b>94806.4</b>	<b>91523.3</b>	<b>161827.7</b>	<b>105246.9</b>	<b>124952.5</b>	<b>55847.5</b>	<b>1226704.9</b>

AM Peak Period VHT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	331.6	439.7	771.3
Freeway	0	0	0	0	0	513.5	488.7	1042.7	356.2	1110.5	2488.7	1213.4	1161.9	0	8375.6
Major	0	0	0	149.5	666.1	226.3	1532.5	2891.1	1164.1	27.5	0	0	0	0	6657.1
Primary	0	0	19.6	217.4	701.7	929.3	1199.2	1950.7	321.8	0	0	0	0	0	5339.7
Secondary	0	0	0	0	55.6	109.5	149	169.9	0	0	0	0	0	0	484
Local	0	0	0	0	0	0	53.2	0	0	0	0	0	0	0	53.2
Smart Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOV Lanes	0	0	0	0	0	0	0	0	190.9	111.7	0	407.2	430.8	419.1	1559.7
Ramps	25.4	209	145.3	75.7	75.8	250.8	90.8	42.1	0	239.7	0	0	0	0	1154.6
Centroid Connector	0	0	0	0	0	0	1400.7	0	0	0	0	0	0	0	1400.7
<b>TOTAL</b>	<b>25.4</b>	<b>209</b>	<b>164.9</b>	<b>442.6</b>	<b>1499.2</b>	<b>2029.4</b>	<b>4914.1</b>	<b>6096.5</b>	<b>2033</b>	<b>1489.4</b>	<b>2488.7</b>	<b>1620.6</b>	<b>1924.3</b>	<b>858.8</b>	<b>25795.9</b>

PM Peak Period VMT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	9640.4	60271.2	69911.6
Freeway	0	0	0	0	0	6487.7	95290.6	54348	59390.3	85799.5	215584.1	139475.8	84431.9	0	740807.9
Major	0	0	0	0	9889.9	27108.3	66465.2	148641.7	68290.5	1965	0	0	0	0	322360.6
Primary	0	0	573.7	14192.6	15857.1	40110.8	66125.5	91163.6	16381.8	0	0	0	0	0	244405.1
Secondary	0	0	0	912.6	0	1699.8	9084.3	9512.3	0	0	0	0	0	0	21209
Local	0	0	0	0	0	0	1612.7	0	0	0	0	0	0	0	1612.7
Smart Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOV Lanes	0	0	0	0	0	0	0	0	0	15195.8	7127.3	19775.1	23785.8	59547.3	125431.3
Ramps	1447.1	4644.3	6066	4380.4	2130.9	3208.8	2923.4	0	20861.1	4836	0	0	0	0	50498
Centroid Connector	0	0	0	0	0	0	60832.8	0	0	0	0	0	0	0	60832.8
<b>TOTAL</b>	<b>1447.1</b>	<b>4644.3</b>	<b>6639.7</b>	<b>19485.6</b>	<b>27877.9</b>	<b>78615.4</b>	<b>302334.5</b>	<b>303665.6</b>	<b>164923.7</b>	<b>107796.3</b>	<b>222711.4</b>	<b>159250.9</b>	<b>117858.1</b>	<b>119818.5</b>	<b>1637069</b>

PM Peak Period VHT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	149.4	925.8	1075.2
Freeway	0	0	0	0	0	102.4	1464.8	836	916.6	1320.7	3318.2	2147.8	1297.5	0	11404
Major	0	0	0	0	282.2	863	1872.1	4040.9	1709.1	43	0	0	0	0	8810.3
Primary	0	0	19.1	413.1	512	1219.2	1948.5	2538.9	411.2	0	0	0	0	0	7062
Secondary	0	0	0	26.6	0	48.7	271.1	273.1	0	0	0	0	0	0	619.5
Local	0	0	0	0	0	0	53.8	0	0	0	0	0	0	0	53.8
Smart Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOV Lanes	0	0	0	0	0	0	0	0	0	234.5	109.4	304.9	366.5	915.9	1931.2
Ramps	48.2	154.8	202.2	146	71	107	97.4	0	463.6	107.5	0	0	0	0	1397.7
Centroid Connector	0	0	0	0	0	0	2027.8	0	0	0	0	0	0	0	2027.8
<b>TOTAL</b>	<b>48.2</b>	<b>154.8</b>	<b>221.3</b>	<b>585.7</b>	<b>865.2</b>	<b>2340.3</b>	<b>7735.5</b>	<b>7688.9</b>	<b>3500.5</b>	<b>1705.7</b>	<b>3427.6</b>	<b>2452.7</b>	<b>1813.4</b>	<b>1841.7</b>	<b>34381.5</b>

Mid-Day Period VMT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	0	28241	28241
Freeway	0	0	0	0	0	0	0	0	0	0	6894.7	367814.6	362097.7	133091.3	869898.3
Major	0	0	0	0	0	0	11347.1	119033.1	100729.8	1763.7	0	0	0	0	232873.7
Primary	0	0	0	0	0	0	23081.1	106137.1	39015.1	0	0	0	0	0	168233.3
Secondary	0	0	0	0	0	0	1732.5	9954.8	0	0	0	0	0	0	11687.3
Local	0	0	0	0	0	0	1064.3	0	0	0	0	0	0	0	1064.3
Smart Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOV Lanes	0	0	0	0	0	0	0	0	0	0	0	0	0	103464.5	103464.5
Ramps	0	1543.7	697.8	5559.6	3005.7	4927.5	9070.2	0	0	13991.8	0	0	0	0	38796.3
Centroid Connector	0	0	0	0	0	0	56720.8	0	0	0	0	0	0	0	56720.8
<b>TOTAL</b>	<b>0</b>	<b>1543.7</b>	<b>697.8</b>	<b>5559.6</b>	<b>3005.7</b>	<b>4927.5</b>	<b>103016</b>	<b>235125</b>	<b>139744.9</b>	<b>15755.5</b>	<b>6894.7</b>	<b>367814.6</b>	<b>362097.7</b>	<b>264796.8</b>	<b>1510979.5</b>

Mid-Day Period VHT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	0	434.3	434.3
Freeway	0	0	0	0	0	0	0	0	0	0	108.9	5668.2	5574.7	2041.2	13393
Major	0	0	0	0	0	0	377.2	3400	2525.5	38.7	0	0	0	0	6341.4
Primary	0	0	0	0	0	0	769.6	3027.1	975.7	0	0	0	0	0	4772.4
Secondary	0	0	0	0	0	0	53.8	285.7	0	0	0	0	0	0	339.5
Local	0	0	0	0	0	0	35.5	0	0	0	0	0	0	0	35.5
Smart Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOV Lanes	0	0	0	0	0	0	0	0	0	0	0	0	0	1593.3	1593.3
Ramps	0	51.5	23.3	185.3	100.2	164.3	302.3	0	0	310.9	0	0	0	0	1137.8
Centroid Connector	0	0	0	0	0	0	1890.7	0	0	0	0	0	0	0	1890.7
<b>TOTAL</b>	<b>0</b>	<b>51.5</b>	<b>23.3</b>	<b>185.3</b>	<b>100.2</b>	<b>164.3</b>	<b>3429.1</b>	<b>6712.8</b>	<b>3501.2</b>	<b>349.6</b>	<b>108.9</b>	<b>5668.2</b>	<b>5574.7</b>	<b>4068.8</b>	<b>29937.9</b>

Night-Time Period VMT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	0	18126.8	18126.8
Freeway	0	0	0	0	0	0	0	0	0	0	0	0	62948.9	612829.5	675778.4
Major	0	0	0	0	0	0	5425.8	83528.7	66458.9	1019.3	0	0	0	0	156432.7
Primary	0	0	0	0	0	0	11747.9	68602	24863.1	0	0	0	0	0	105213
Secondary	0	0	0	0	0	0	422.4	6309.9	0	0	0	0	0	0	6732.3
Local	0	0	0	0	0	0	549	0	0	0	0	0	0	0	549
Smart Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOV Lanes	0	0	0	0	0	0	0	0	0	0	0	0	0	67889.9	67889.9
Ramps	0	0	0	1551.6	1099.5	4402.9	11906.3	0	0	7765.1	0	0	0	0	26725.4
Centroid Connector	0	0	0	0	0	0	34301.5	0	0	0	0	0	0	0	34301.5
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1551.6</b>	<b>1099.5</b>	<b>4402.9</b>	<b>64352.9</b>	<b>158440.6</b>	<b>91322</b>	<b>8784.4</b>	<b>0</b>	<b>0</b>	<b>62948.9</b>	<b>698846.2</b>	<b>1091749</b>

Night-Time Period VHT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	0	278.8	278.8
Freeway	0	0	0	0	0	0	0	0	0	0	0	0	974.7	9430	10404.7
Major	0	0	0	0	0	0	180.3	2385.6	1666.5	22.4	0	0	0	0	4254.8
Primary	0	0	0	0	0	0	391.6	1956.4	621.9	0	0	0	0	0	2969.9
Secondary	0	0	0	0	0	0	14	181.5	0	0	0	0	0	0	195.5
Local	0	0	0	0	0	0	18.3	0	0	0	0	0	0	0	18.3
Smart Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOV Lanes	0	0	0	0	0	0	0	0	0	0	0	0	0	1045.5	1045.5
Ramps	0	0	0	51.7	36.6	146.8	396.9	0	0	172.6	0	0	0	0	804.6
Centroid Connector	0	0	0	0	0	0	1143.4	0	0	0	0	0	0	0	1143.4
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>51.7</b>	<b>36.6</b>	<b>146.8</b>	<b>2144.5</b>	<b>4523.5</b>	<b>2288.4</b>	<b>195</b>	<b>0</b>	<b>0</b>	<b>974.7</b>	<b>10754.3</b>	<b>21115.5</b>

Opening Year Alt 1 - No Build

AM Peak Period VMT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	5071	22705.8	26858.2	54635
Freeway	0	0	0	0	13270.3	50214.8	41626.1	61179.5	27236	102141.9	144184.4	64677.9	71431.5	0	575962.4
Major	0	0	0	6883	16443.3	10708.3	61753	101833.6	37192	1049.3	0	0	0	0	235862.5
Primary	0	0	385.9	7499.5	31106.8	25822.4	45341.5	69861.9	13039.9	0	0	0	0	0	193057.9
Secondary	0	0	0	334.9	3346.6	3655.8	5891	5483.4	0	0	0	0	0	0	18711.7
Local	0	0	0	0	0	0	1781.6	0	0	0	0	0	0	0	1781.6
Smart Street	0	0	0	2129.1	5880.6	5722.1	4990.2	4953.6	8404	260.4	0	0	0	0	32340
HOV	0	0	0	0	0	0	0	8024.1	8136.6	7231.2	12142.8	26253.9	26781.7	22279.1	110849.4
Ramps	744.3	6713.8	4306.7	2432.5	6050.9	7855.5	3660.9	1230.5	1692.7	9578	0	0	0	0	44265.8
Centroid Connector	0	0	0	0	0	0	43582.7	0	0	0	0	0	0	0	43582.7
<b>TOTAL</b>	<b>744.3</b>	<b>6713.8</b>	<b>4692.6</b>	<b>19279</b>	<b>76098.5</b>	<b>103978.9</b>	<b>208627</b>	<b>252566.6</b>	<b>95701.2</b>	<b>120260.8</b>	<b>156327.2</b>	<b>96002.8</b>	<b>120919</b>	<b>49137.3</b>	<b>1311049</b>

AM Peak Period VHT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	77.8	349.8	412.9	840.5
Freeway	0	0	0	0	205.4	775.3	638	944	419.4	1570.5	2218.3	996	1099.7	0	8866.6
Major	0	0	0	210.5	495	302.8	1702.7	2775.6	931.4	22.9	0	0	0	0	6440.9
Primary	0	0	12.9	218.6	956.7	777.6	1340.5	1944.3	327.1	0	0	0	0	0	5577.7
Secondary	0	0	0	9.6	96	105.9	176.3	157.7	0	0	0	0	0	0	545.5
Local	0	0	0	0	0	0	59.4	0	0	0	0	0	0	0	59.4
Smart Street	0	0	0	66.4	184.6	136.8	136.7	117.8	200.2	6	0	0	0	0	848.5
HOV	0	0	0	0	0	0	0	123.5	125.4	111.5	186.9	404.3	412.4	342.6	1706.6
Ramps	24.9	223.7	143.6	81.1	155.8	186.1	110.7	27.7	37.7	212.4	0	0	0	0	1203.7
Centroid Connector	0	0	0	0	0	0	1452.7	0	0	0	0	0	0	0	1452.7
<b>TOTAL</b>	<b>24.9</b>	<b>223.7</b>	<b>156.5</b>	<b>586.2</b>	<b>2093.5</b>	<b>2284.5</b>	<b>5617</b>	<b>6090.6</b>	<b>2041.2</b>	<b>1923.3</b>	<b>2405.2</b>	<b>1478.1</b>	<b>1861.9</b>	<b>755.5</b>	<b>27542.1</b>

PM Peak Period VMT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	3517.6	11572.6	59136.6	74226.8
Freeway	0	0	0	2684.9	0	30202	104701.6	64966.1	94998	123796.8	180632.4	128498.1	55471.8	0	785951.7
Major	0	0	0	0	13887.6	23252.8	67596.6	153336.6	52453.8	1737.8	0	0	0	0	312265.2
Primary	0	0	376.9	16055.2	22718.6	38370.9	72259.2	88101.9	16967.9	0	0	0	0	0	254850.6
Secondary	0	0	334.4	1035.4	690.7	3770.2	10134.7	8432.1	0	0	0	0	0	0	24397.5
Local	0	0	0	0	0	0	1916.8	0	0	0	0	0	0	0	1916.8
Smart Street	0	0	0	622.3	8892.9	6517.1	10187.4	4142.9	14481.9	426.7	0	0	0	0	45271.2
HOV	0	0	0	0	0	0	0	6522.6	3489.9	16241.4	12051.4	19361.3	42555.7	40313.5	140535.8
Ramps	1947.6	4594.9	6669.2	4319.9	1815.8	2878.9	3264.5	5691.6	17144.5	4588.5	0	0	0	0	52915.4
Centroid Connector	0	0	0	0	0	0	63255.5	0	0	0	0	0	0	0	63255.5
<b>TOTAL</b>	<b>1947.6</b>	<b>4594.9</b>	<b>7380.5</b>	<b>24717.7</b>	<b>48005.6</b>	<b>104991.9</b>	<b>333316.3</b>	<b>331193.8</b>	<b>199536</b>	<b>146791.2</b>	<b>192683.8</b>	<b>151377</b>	<b>109600.1</b>	<b>99450.1</b>	<b>1755586.5</b>

PM Peak Period VHT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	54.5	178.5	908.6	1141.6
Freeway	0	0	0	42.4	0	465.3	1611.5	999.2	1463.3	1906.7	2780.2	1978	852.5	0	12099.1
Major	0	0	0	0	395.8	722.5	1899.2	4165.2	1312.3	37.9	0	0	0	0	8532.9
Primary	0	0	12.5	476.6	723	1160.7	2111.5	2460.2	426	0	0	0	0	0	7370.5
Secondary	0	0	9.7	30	19.8	107.9	301.7	242.2	0	0	0	0	0	0	711.3
Local	0	0	0	0	0	0	63.9	0	0	0	0	0	0	0	63.9
Smart Street	0	0	0	19.7	278.4	164.4	275.1	98.1	345.3	9.9	0	0	0	0	1190.9
HOV	0	0	0	0	0	0	0	100.7	53.5	250.6	185.5	298.3	655.2	620	2163.8
Ramps	64.9	153.2	222.3	144	60.5	96	107.4	125.9	380.8	102	0	0	0	0	1457
Centroid Connector	0	0	0	0	0	0	2108.5	0	0	0	0	0	0	0	2108.5
<b>TOTAL</b>	<b>64.9</b>	<b>153.2</b>	<b>244.5</b>	<b>712.7</b>	<b>1477.5</b>	<b>2716.8</b>	<b>8478.8</b>	<b>8191.5</b>	<b>3981.2</b>	<b>2307.1</b>	<b>2965.7</b>	<b>2330.8</b>	<b>1686.2</b>	<b>1528.6</b>	<b>36839.5</b>

**Mid-Day Period VMT**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	0	36243.3	36243.3
Freeway	0	0	0	0	0	0	0	3112.6	0	69867.2	140503.8	344039.9	306321.1	87441	951285.6
Major	0	0	0	0	0	0	8901.6	131044.3	94958.9	1447.1	0	0	0	0	236351.9
Primary	0	0	0	0	0	0	24241.3	113013.6	37799.7	0	0	0	0	0	175054.6
Secondary	0	0	0	0	0	0	2457.1	13148.7	0	0	0	0	0	0	15605.8
Local	0	0	0	0	0	0	1127.1	0	0	0	0	0	0	0	1127.1
Smart Street	0	0	0	0	0	0	8869.4	0	17182.9	762.6	0	0	0	0	26814.9
HOV	0	0	0	0	0	0	0	0	0	0	0	0	14665	106744.2	121409.2
Ramps	0	1194.6	1605	4724.7	4276.3	5801.7	8255.9	0	0	16821	0	0	0	0	42679.2
Centroid Connector	0	0	0	0	0	0	59124	0	0	0	0	0	0	0	59124
<b>TOTAL</b>	0	1194.6	1605	4724.7	4276.3	5801.7	112976.4	260319.2	149941.5	88897.9	140503.8	344039.9	320986.1	230428.5	1665695.6

**Mid-Day Period VHT**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	0	557.3	557.3
Freeway	0	0	0	0	0	0	0	49.2	0	1076.6	2166.8	5298.1	4714.2	1341.1	14646
Major	0	0	0	0	0	0	288.9	3741.9	2380.7	31.7	0	0	0	0	6443.2
Primary	0	0	0	0	0	0	805.5	3218.7	945.4	0	0	0	0	0	4969.6
Secondary	0	0	0	0	0	0	74.8	376.9	0	0	0	0	0	0	451.7
Local	0	0	0	0	0	0	37.6	0	0	0	0	0	0	0	37.6
Smart Street	0	0	0	0	0	0	278	0	409.5	17.7	0	0	0	0	705.2
HOV	0	0	0	0	0	0	0	0	0	0	0	0	225.8	1643.9	1869.7
Ramps	0	39.8	53.5	157.4	142.6	193.4	275.2	0	0	373.4	0	0	0	0	1235.3
Centroid Connector	0	0	0	0	0	0	1970.8	0	0	0	0	0	0	0	1970.8
<b>TOTAL</b>	0	39.8	53.5	157.4	142.6	193.4	3730.8	7386.7	3735.6	1499.4	2166.8	5298.1	4940	3542.3	32886.4

**Night-Time Period VMT**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	0	20455.8	20455.8
Freeway	0	0	0	0	0	0	0	0	0	0	0	2720.4	142018.7	597907	742646.1
Major	0	0	0	0	0	0	3580.3	93071.1	63932.4	819.9	0	0	0	0	161403.7
Primary	0	0	0	0	0	0	11672.3	69453.5	24111	0	0	0	0	0	105236.8
Secondary	0	0	0	0	0	0	433.6	7845.3	0	0	0	0	0	0	8278.9
Local	0	0	0	0	0	0	560.7	0	0	0	0	0	0	0	560.7
Smart Street	0	0	0	0	0	0	3426.1	0	8484.2	410.4	0	0	0	0	12320.7
HOV	0	0	0	0	0	0	0	0	0	0	0	0	0	81751.4	81751.4
Ramps	0	0	403.2	1191.9	1478.3	4773.2	12075.5	0	0	7861.9	0	0	0	0	27784
Centroid Connector	0	0	0	0	0	0	35772.9	0	0	0	0	0	0	0	35772.9
<b>TOTAL</b>	0	0	403.2	1191.9	1478.3	4773.2	67521.4	170369.9	96527.6	9092.2	0	2720.4	142018.7	700114.2	1196211

**Night-Time Period VHT**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	0	314.6	314.6
Freeway	0	0	0	0	0	0	0	0	0	0	0	43	2193.3	9197.9	11434.2
Major	0	0	0	0	0	0	119	2657	1603	18	0	0	0	0	4397
Primary	0	0	0	0	0	0	388.9	1981.5	603.2	0	0	0	0	0	2973.6
Secondary	0	0	0	0	0	0	14.4	225.5	0	0	0	0	0	0	239.9
Local	0	0	0	0	0	0	18.7	0	0	0	0	0	0	0	18.7
Smart Street	0	0	0	0	0	0	107.4	0	202.2	9.5	0	0	0	0	319.1
HOV	0	0	0	0	0	0	0	0	0	0	0	0	0	1258.9	1258.9
Ramps	0	0	13.4	39.7	49.3	159.1	402.5	0	0	174.7	0	0	0	0	838.7
Centroid Connector	0	0	0	0	0	0	1192.4	0	0	0	0	0	0	0	1192.4
<b>TOTAL</b>	0	0	13.4	39.7	49.3	159.1	2243.3	4864	2408.4	202.2	0	43	2193.3	10771.4	22987.1

Opening Year - Alt 2

AM Peak Period VMT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	26416.1	27432.2	53848.3
Freeway	0	0	0	0	16745.4	48542.8	22269.2	70143.7	26687.6	118705.4	120340.3	70256.9	88068.7	0	581760
Major	0	0	0	6912.2	15359.9	12963.1	59395.2	102207.4	37499.3	1050.5	0	0	0	0	235387.6
Primary	0	0	385.9	8658.1	28105.1	25886.4	45739.3	69846.3	12962.8	0	0	0	0	0	191583.9
Secondary	0	0	0	336.1	3308.4	3658.4	5839.1	5511.5	0	0	0	0	0	0	18653.5
Local	0	0	0	0	0	0	1698.8	0	0	0	0	0	0	0	1698.8
Smart Street	0	0	0	2088	5778.5	1318.8	7433.1	5228.9	9309.4	254.4	0	0	0	0	31411.1
HOV	0	0	0	0	0	0	0	0	10157.3	9814.2	10755.7	29415.3	27003.5	24423.7	111569.7
Ramps	611.8	6929.9	4683.5	1929.8	6309.7	8979.7	2556.5	1230.5	1882.8	9581	0	0	0	0	44695.2
Centroid Connector	0	0	0	0	0	0	43601.8	0	0	0	0	0	0	0	43601.8
<b>TOTAL</b>	<b>611.8</b>	<b>6929.9</b>	<b>5069.4</b>	<b>19924.2</b>	<b>75607</b>	<b>101349.2</b>	<b>188533</b>	<b>254168.3</b>	<b>98499.2</b>	<b>139405.5</b>	<b>131096</b>	<b>99672.2</b>	<b>141488.3</b>	<b>51855.9</b>	<b>1314209.9</b>

AM Peak Period VHT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	406.8	421.5	828.3
Freeway	0	0	0	0	258.8	750	340.4	1082.3	411	1824.7	1851.8	1081.9	1355.1	0	8956
Major	0	0	0	211.3	467.2	364.2	1637.8	2785.8	939.3	23	0	0	0	0	6428.6
Primary	0	0	12.9	251.6	870.7	775	1355.4	1944.4	325.2	0	0	0	0	0	5535.2
Secondary	0	0	0	9.7	94.9	105.9	174.6	158.5	0	0	0	0	0	0	543.6
Local	0	0	0	0	0	0	56.6	0	0	0	0	0	0	0	56.6
Smart Street	0	0	0	65.1	181.4	31.3	195.6	123.9	221.9	5.9	0	0	0	0	825.1
HOV	0	0	0	0	0	0	0	0	156.6	151.2	165.6	452.8	415.8	375.7	1717.7
Ramps	20.4	231	156.1	64.3	163.4	211.5	85.2	27.7	42	212.4	0	0	0	0	1214
Centroid Connector	0	0	0	0	0	0	1453.4	0	0	0	0	0	0	0	1453.4
<b>TOTAL</b>	<b>20.4</b>	<b>231</b>	<b>169</b>	<b>602</b>	<b>2036.4</b>	<b>2237.9</b>	<b>5299</b>	<b>6122.6</b>	<b>2096</b>	<b>2217.2</b>	<b>2017.4</b>	<b>1534.7</b>	<b>2177.7</b>	<b>797.2</b>	<b>27558.5</b>

PM Peak Period VMT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	3503.1	11465	58449.7	73417.8
Freeway	0	0	0	2753.9	0	45432	80350.4	38001.2	98246.5	147959	156739.3	163945.1	60407.4	0	793834.8
Major	0	0	0	1444.1	12206.8	25472.9	66630	152780.7	51674.8	1735.9	0	0	0	0	311945.2
Primary	0	0	376.9	14694.8	23447.2	38005	70699.6	87796.3	17764.7	0	0	0	0	0	252784.5
Secondary	0	0	0	1350.3	709.6	3783.9	10426.8	8100.2	0	0	0	0	0	0	24370.8
Local	0	0	0	0	0	0	1935.5	0	0	0	0	0	0	0	1935.5
Smart Street	0	0	0	623.3	8727.5	6393.7	9013.8	4716.5	13955.5	397.2	0	0	0	0	43827.5
HOV	0	0	0	0	0	0	0	0	6046.5	13268	8677	21917.6	50747.2	40571	141227.3
Ramps	1415	5396.6	6362.3	4332.5	2078.1	2464.5	3512.5	5550.1	17145.8	4615.1	0	0	0	0	52872.5
Centroid Connector	0	0	0	0	0	0	63253.2	0	0	0	0	0	0	0	63253.2
<b>TOTAL</b>	<b>1415</b>	<b>5396.6</b>	<b>6739.2</b>	<b>25198.9</b>	<b>47169.2</b>	<b>121552</b>	<b>305821.8</b>	<b>296945</b>	<b>204833.8</b>	<b>167975.2</b>	<b>165416.3</b>	<b>189365.8</b>	<b>122619.6</b>	<b>99020.7</b>	<b>1759469.1</b>

PM Peak Period VHT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	54.3	176.9	898	1129.2
Freeway	0	0	0	43.5	0	700	1236.4	585.6	1514.3	2277.8	2411.7	2522.5	928.5	0	12220.3
Major	0	0	0	40.9	348.1	779.4	1873.8	4151.8	1292.6	37.9	0	0	0	0	8524.5
Primary	0	0	12.5	431.2	749.9	1146.4	2072.9	2451.7	446	0	0	0	0	0	7310.6
Secondary	0	0	0	39.2	20.3	108.2	310.1	232.6	0	0	0	0	0	0	710.4
Local	0	0	0	0	0	0	64.5	0	0	0	0	0	0	0	64.5
Smart Street	0	0	0	19.7	273.3	161.5	246.2	112	332.5	9.2	0	0	0	0	1154.4
HOV	0	0	0	0	0	0	0	0	93	204.8	133.6	337.8	781.3	623.9	2174.4
Ramps	47.1	179.9	212.1	144.4	69.3	82.2	115.6	122.7	380.9	102.6	0	0	0	0	1456.8
Centroid Connector	0	0	0	0	0	0	2108.5	0	0	0	0	0	0	0	2108.5
<b>TOTAL</b>	<b>47.1</b>	<b>179.9</b>	<b>224.6</b>	<b>718.9</b>	<b>1460.9</b>	<b>2977.7</b>	<b>8028</b>	<b>7656.4</b>	<b>4059.3</b>	<b>2632.3</b>	<b>2545.3</b>	<b>2914.6</b>	<b>1886.7</b>	<b>1521.9</b>	<b>36853.6</b>

Mid-Day Period VMT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32964.2
Freeway	0	0	0	0	0	0	0	3158.9	2562.7	43489	97871.9	361071.2	364111.8	87441	959706.5
Major	0	0	0	0	0	0	8916	130585.7	94304.6	1434.4	0	0	0	0	235240.7
Primary	0	0	0	0	0	0	23818.6	110950.7	38139.8	0	0	0	0	0	172909.1
Secondary	0	0	0	0	0	0	2456.7	13134.2	0	0	0	0	0	0	15590.9
Local	0	0	0	0	0	0	1116.1	0	0	0	0	0	0	0	1116.1
Smart Street	0	0	0	0	0	0	8544.4	0	16406.1	721.4	0	0	0	0	25671.9
HOV	0	0	0	0	0	0	0	0	0	0	0	0	11367.7	109959.9	121327.6
Ramps	0	1475.3	776	5533	4000	5844.1	8179	0	0	18207.9	0	0	0	0	44015.3
Centroid Connector	0	0	0	0	0	0	59115.4	0	0	0	0	0	0	0	59115.4
<b>TOTAL</b>	<b>0</b>	<b>1475.3</b>	<b>776</b>	<b>5533</b>	<b>4000</b>	<b>5844.1</b>	<b>112146.2</b>	<b>257829.5</b>	<b>151413.2</b>	<b>63852.7</b>	<b>97871.9</b>	<b>361071.2</b>	<b>375479.5</b>	<b>230365.1</b>	<b>1667657.7</b>

Mid-Day Period VHT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	0	506.9	506.9
Freeway	0	0	0	0	0	0	0	49.9	39.9	674.2	1508.1	5561.6	5600.8	1341.1	14775.6
Major	0	0	0	0	0	0	289.3	3728.8	2364.2	31.4	0	0	0	0	6413.7
Primary	0	0	0	0	0	0	793.7	3163.2	954	0	0	0	0	0	4910.9
Secondary	0	0	0	0	0	0	74.8	376.5	0	0	0	0	0	0	451.3
Local	0	0	0	0	0	0	37.2	0	0	0	0	0	0	0	37.2
Smart Street	0	0	0	0	0	0	267.8	0	391.1	16.7	0	0	0	0	675.6
HOV	0	0	0	0	0	0	0	0	0	0	0	0	175	1693.3	1868.3
Ramps	0	49.2	25.9	184.4	133.3	194.8	272.6	0	0	404.3	0	0	0	0	1264.5
Centroid Connector	0	0	0	0	0	0	1970.5	0	0	0	0	0	0	0	1970.5
<b>TOTAL</b>	<b>0</b>	<b>49.2</b>	<b>25.9</b>	<b>184.4</b>	<b>133.3</b>	<b>194.8</b>	<b>3705.9</b>	<b>7318.4</b>	<b>3749.2</b>	<b>1126.6</b>	<b>1508.1</b>	<b>5561.6</b>	<b>5775.8</b>	<b>3541.3</b>	<b>32874.5</b>

Night-Time Period VMT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	0	20430.7	20430.7
Freeway	0	0	0	0	0	0	0	0	0	0	0	2725.1	132666.5	607556.9	742948.5
Major	0	0	0	0	0	0	3580.3	93074.6	63941.8	819.9	0	0	0	0	161416.6
Primary	0	0	0	0	0	0	11676.5	69455.4	24083.9	0	0	0	0	0	105215.8
Secondary	0	0	0	0	0	0	433.6	7848.8	0	0	0	0	0	0	8282.4
Local	0	0	0	0	0	0	562.3	0	0	0	0	0	0	0	562.3
Smart Street	0	0	0	0	0	0	3422.4	0	8402.9	404	0	0	0	0	12229.3
HOV	0	0	0	0	0	0	0	0	0	0	0	0	0	81781.7	81781.7
Ramps	0	0	403.2	1191.8	1478.4	4775.2	12079.7	0	0	7861.9	0	0	0	0	27790.2
Centroid Connector	0	0	0	0	0	0	35768.8	0	0	0	0	0	0	0	35768.8
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>403.2</b>	<b>1191.8</b>	<b>1478.4</b>	<b>4775.2</b>	<b>67523.6</b>	<b>170378.8</b>	<b>96428.6</b>	<b>9085.8</b>	<b>0</b>	<b>2725.1</b>	<b>132666.5</b>	<b>709769.3</b>	<b>1196426.3</b>

Night-Time Period VHT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	0	314.2	314.2
Freeway	0	0	0	0	0	0	0	0	0	0	0	43	2049.4	9346.3	11438.7
Major	0	0	0	0	0	0	119	2657.1	1603.3	18	0	0	0	0	4397.4
Primary	0	0	0	0	0	0	389	1981.6	602.5	0	0	0	0	0	2973.1
Secondary	0	0	0	0	0	0	14.4	225.6	0	0	0	0	0	0	240
Local	0	0	0	0	0	0	18.7	0	0	0	0	0	0	0	18.7
Smart Street	0	0	0	0	0	0	107.3	0	200.2	9.4	0	0	0	0	316.9
HOV	0	0	0	0	0	0	0	0	0	0	0	0	0	1259.3	1259.3
Ramps	0	0	13.4	39.7	49.3	159.2	402.7	0	0	174.7	0	0	0	0	839
Centroid Connector	0	0	0	0	0	0	1192.3	0	0	0	0	0	0	0	1192.3
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>13.4</b>	<b>39.7</b>	<b>49.3</b>	<b>159.2</b>	<b>2243.4</b>	<b>4864.3</b>	<b>2406</b>	<b>202.1</b>	<b>0</b>	<b>43</b>	<b>2049.4</b>	<b>10919.8</b>	<b>22989.6</b>

Opening Year - Alt 3

AM Peak Period VMT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	26279.6	27416.5	53696.1
Freeway	0	0	0	0	16775.6	48851	27540.6	58069.9	43656.1	85041.1	147229	63844.7	93893.8	0	584901.8
Major	0	0	0	6896.3	15325.9	12674.2	59264.8	102505.7	37424	1058.4	0	0	0	0	235149.3
Primary	0	0	385.9	6133.8	30490.2	26422.8	43394.9	70845.9	13099.8	0	0	0	0	0	190773.3
Secondary	0	0	343.3	0	3329.9	3683.2	5860.6	5527.9	0	0	0	0	0	0	18744.9
Local	0	0	0	0	0	0	1713.6	0	0	0	0	0	0	0	1713.6
Smart Street	0	0	0	2080.7	5747.7	1314.9	7436.2	5152.9	9193.8	251.7	0	0	0	0	31177.9
HOV	0	0	0	0	0	0	0	0	8136.6	4763.1	10995.2	35569.6	26888.7	24568	110921.2
Ramps	611.4	7106.8	4056.1	2390.8	2977.9	11149.7	3515.4	1230.5	1744.3	9579.4	0	0	0	0	44362.3
Centroid Connector	0	0	0	0	0	0	43598.6	0	0	0	0	0	0	0	43598.6
<b>TOTAL</b>	<b>611.4</b>	<b>7106.8</b>	<b>4785.3</b>	<b>17501.6</b>	<b>74647.2</b>	<b>104095.8</b>	<b>192324.7</b>	<b>243332.8</b>	<b>113254.6</b>	<b>100693.7</b>	<b>158224.2</b>	<b>99414.3</b>	<b>147062.1</b>	<b>51984.5</b>	<b>1315039</b>

AM Peak Period VHT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	404.7	421.3	826
Freeway	0	0	0	0	259.2	754.7	420.5	897.7	670.7	1308.7	2265	982.9	1444.7	0	9004.1
Major	0	0	0	210.9	466.1	356.2	1634.2	2794.3	937.4	23.1	0	0	0	0	6422.2
Primary	0	0	12.9	177.2	941.1	792.5	1288.2	1971.8	328.6	0	0	0	0	0	5512.3
Secondary	0	0	9.9	0	95.5	106.7	175.3	159	0	0	0	0	0	0	546.4
Local	0	0	0	0	0	0	57.1	0	0	0	0	0	0	0	57.1
Smart Street	0	0	0	64.9	180.5	31.2	195.5	122.1	219.1	5.8	0	0	0	0	819.1
HOV	0	0	0	0	0	0	0	0	125.4	73.4	169.3	547.7	414	377.9	1707.7
Ramps	20.4	236.9	135.2	79.7	88.1	262.2	106.1	27.7	38.9	212.4	0	0	0	0	1207.6
Centroid Connector	0	0	0	0	0	0	1453.2	0	0	0	0	0	0	0	1453.2
<b>TOTAL</b>	<b>20.4</b>	<b>236.9</b>	<b>158</b>	<b>532.7</b>	<b>2030.5</b>	<b>2303.5</b>	<b>5330.1</b>	<b>5972.6</b>	<b>2320.1</b>	<b>1623.4</b>	<b>2434.3</b>	<b>1530.6</b>	<b>2263.4</b>	<b>799.2</b>	<b>27555.7</b>

PM Peak Period VMT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	3484.2	6333.7	63368.6	73186.5
Freeway	0	0	0	2795.4	0	34636.6	91593.1	39392.7	88657.3	126209.6	173762.7	156991	82663.4	0	796701.8
Major	0	0	0	1442.1	12494.9	23414.6	68558.2	149833.2	54204.6	1750.2	0	0	0	0	311697.8
Primary	0	0	376.9	13107.3	23201.4	38865.2	70765.5	88618.8	17735.7	0	0	0	0	0	252670.8
Secondary	0	0	0	1346.2	713.4	3789.7	10520.2	8021.3	0	0	0	0	0	0	24390.8
Local	0	0	0	0	0	0	1949.4	0	0	0	0	0	0	0	1949.4
Smart Street	0	0	0	622.3	8825.4	6396	8980.8	3245.5	15143.8	393.8	0	0	0	0	43607.6
HOV	0	0	0	0	0	0	0	0	0	13184.7	11699.6	21295.5	53114.9	40991.1	140285.8
Ramps	1915.2	4930.9	6358.8	4406	2161.3	2527	5617.9	3909.8	17153.8	4620.2	0	0	0	0	53600.9
Centroid Connector	0	0	0	0	0	0	63262.8	0	0	0	0	0	0	0	63262.8
<b>TOTAL</b>	<b>1915.2</b>	<b>4930.9</b>	<b>6735.7</b>	<b>23719.3</b>	<b>47396.4</b>	<b>109629.1</b>	<b>321247.9</b>	<b>293021.3</b>	<b>192895.2</b>	<b>146158.5</b>	<b>185462.3</b>	<b>181770.7</b>	<b>142112</b>	<b>104359.7</b>	<b>1761354.2</b>

PM Peak Period VHT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	54	98.2	973.4	1125.6
Freeway	0	0	0	44.1	0	534.2	1410	606.8	1365.8	1944.7	2673.1	2416	1269.9	0	12264.6
Major	0	0	0	40.9	356.4	727.2	1924.8	4074.4	1356.7	38.2	0	0	0	0	8518.6
Primary	0	0	12.5	385.9	738.3	1176.2	2077.3	2472.9	445.3	0	0	0	0	0	7308.4
Secondary	0	0	0	39.1	20.4	108.4	312.5	230.5	0	0	0	0	0	0	710.9
Local	0	0	0	0	0	0	65	0	0	0	0	0	0	0	65
Smart Street	0	0	0	19.7	276.4	161.5	245.3	77.1	360.6	9.2	0	0	0	0	1149.8
HOV	0	0	0	0	0	0	0	0	0	203.2	180.2	328.2	817.8	630.4	2159.8
Ramps	63.8	164.4	211.9	146.9	72	82.6	161.9	86.6	381	102.7	0	0	0	0	1473.8
Centroid Connector	0	0	0	0	0	0	2108.8	0	0	0	0	0	0	0	2108.8
<b>TOTAL</b>	<b>63.8</b>	<b>164.4</b>	<b>224.4</b>	<b>676.6</b>	<b>1463.5</b>	<b>2790.1</b>	<b>8305.6</b>	<b>7548.3</b>	<b>3909.4</b>	<b>2298</b>	<b>2853.3</b>	<b>2798.2</b>	<b>2185.9</b>	<b>1603.8</b>	<b>36885.3</b>

**Mid-Day Period VMT**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32839.6
Freeway	0	0	0	0	0	0	0	3178.2	2586.6	43655.8	105544.5	312056.3	407117.8	87441	961580.2
Major	0	0	0	0	0	0	8931.2	130590.3	94336.5	1435.3	0	0	0	0	235293.3
Primary	0	0	0	0	0	0	24326.3	109505.4	38667.1	0	0	0	0	0	172498.8
Secondary	0	0	0	0	0	0	2459.9	13141.1	0	0	0	0	0	0	15601
Local	0	0	0	0	0	0	1114.7	0	0	0	0	0	0	0	1114.7
Smart Street	0	0	0	0	0	0	8449.6	0	16055.5	708.6	0	0	0	0	25213.7
HOV	0	0	0	0	0	0	0	0	0	0	0	0	11367.9	109928.3	121296.2
Ramps	0	1477.5	775.1	5548.9	4005.6	5932	8138.4	0	0	18239.3	0	0	0	0	44116.8
Centroid Connector	0	0	0	0	0	0	59114.6	0	0	0	0	0	0	0	59114.6
<b>TOTAL</b>	<b>0</b>	<b>1477.5</b>	<b>775.1</b>	<b>5548.9</b>	<b>4005.6</b>	<b>5932</b>	<b>112534.7</b>	<b>256415</b>	<b>151645.7</b>	<b>64039</b>	<b>105544.5</b>	<b>312056.3</b>	<b>418485.7</b>	<b>230208.9</b>	<b>1668668.9</b>

**Mid-Day Period VHT**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	0	505	505
Freeway	0	0	0	0	0	0	0	50.2	40.2	676.8	1626.4	4808	6261.8	1341.1	14804.5
Major	0	0	0	0	0	0	289.7	3728.9	2364.9	31.4	0	0	0	0	6414.9
Primary	0	0	0	0	0	0	808.1	3124.1	967.2	0	0	0	0	0	4899.4
Secondary	0	0	0	0	0	0	74.9	376.7	0	0	0	0	0	0	451.6
Local	0	0	0	0	0	0	37.2	0	0	0	0	0	0	0	37.2
Smart Street	0	0	0	0	0	0	264.8	0	382.7	16.4	0	0	0	0	663.9
HOV	0	0	0	0	0	0	0	0	0	0	0	0	175	1692.8	1867.8
Ramps	0	49.3	25.9	185	133.5	197.8	271.3	0	0	405	0	0	0	0	1267.8
Centroid Connector	0	0	0	0	0	0	1970.5	0	0	0	0	0	0	0	1970.5
<b>TOTAL</b>	<b>0</b>	<b>49.3</b>	<b>25.9</b>	<b>185</b>	<b>133.5</b>	<b>197.8</b>	<b>3716.5</b>	<b>7279.9</b>	<b>3755</b>	<b>1129.6</b>	<b>1626.4</b>	<b>4808</b>	<b>6436.8</b>	<b>3538.9</b>	<b>32882.6</b>

**Night-Time Period VMT**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20396.6
Freeway	0	0	0	0	0	0	0	0	0	0	0	2731.3	132776.2	607864.2	743371.7
Major	0	0	0	0	0	0	3580.3	93070.9	63939.2	819.9	0	0	0	0	161410.3
Primary	0	0	0	0	0	0	11675.9	69452.5	24078.3	0	0	0	0	0	105206.7
Secondary	0	0	0	0	0	0	433.6	7845.2	0	0	0	0	0	0	8278.8
Local	0	0	0	0	0	0	562.3	0	0	0	0	0	0	0	562.3
Smart Street	0	0	0	0	0	0	3419.6	0	8381.1	402.1	0	0	0	0	12202.8
HOV	0	0	0	0	0	0	0	0	0	0	0	0	0	81669.9	81669.9
Ramps	0	0	403.2	1191.5	1478.9	4778.3	12080.9	0	0	7861.9	0	0	0	0	27794.7
Centroid Connector	0	0	0	0	0	0	35768.6	0	0	0	0	0	0	0	35768.6
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>403.2</b>	<b>1191.5</b>	<b>1478.9</b>	<b>4778.3</b>	<b>67521.2</b>	<b>170368.6</b>	<b>96398.6</b>	<b>9083.9</b>	<b>0</b>	<b>2731.3</b>	<b>132776.2</b>	<b>709930.7</b>	<b>1196662.4</b>

**Night-Time Period VHT**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	0	313.7	313.7
Freeway	0	0	0	0	0	0	0	0	0	0	0	43.1	2051.1	9351	11445.2
Major	0	0	0	0	0	0	119	2657	1603.2	18	0	0	0	0	4397.2
Primary	0	0	0	0	0	0	389	1981.5	602.4	0	0	0	0	0	2972.9
Secondary	0	0	0	0	0	0	14.4	225.5	0	0	0	0	0	0	239.9
Local	0	0	0	0	0	0	18.7	0	0	0	0	0	0	0	18.7
Smart Street	0	0	0	0	0	0	107.2	0	199.8	9.3	0	0	0	0	316.3
HOV	0	0	0	0	0	0	0	0	0	0	0	0	0	1257.6	1257.6
Ramps	0	0	13.4	39.7	49.3	159.3	402.7	0	0	174.7	0	0	0	0	839.1
Centroid Connector	0	0	0	0	0	0	1192.3	0	0	0	0	0	0	0	1192.3
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>13.4</b>	<b>39.7</b>	<b>49.3</b>	<b>159.3</b>	<b>2243.3</b>	<b>4864</b>	<b>2405.4</b>	<b>202</b>	<b>0</b>	<b>43.1</b>	<b>2051.1</b>	<b>10922.3</b>	<b>22992.9</b>

**Horizon Year - Alt 1 No Build**

**AM Peak Period VMT**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	14784.4	24948.5	23517.4	63250.3
Freeway	0	0	0	0	38689	82848.8	60092.6	49083.4	35127.1	159458.4	110389.4	37632.6	63743.3	0	637064.6
Major	0	0	0	11476.2	6172.8	16241.4	73727.9	93141.6	19410.2	657.1	0	0	0	0	220827.2
Primary	0	0	0	7273.4	47582.7	15962.5	55046.5	69244.1	13441.5	0	0	0	0	0	208550.7
Secondary	0	0	0	976.5	6058.2	3316.8	7743.3	4679	0	0	0	0	0	0	22773.8
Local	0	0	0	0	0	0	2137.6	0	0	0	0	0	0	0	2137.6
Smart Street	0	0	0	6207.3	17144.6	16682.5	14548.6	14442.1	24501.5	759.3	0	0	0	0	94285.9
HOV Lanes	0	0	0	0	0	0	0	23393.8	0	7195.5	35401.7	25879.1	24501.5	12766.9	129138.5
Ramps	713.2	7562.8	4209.3	2743.1	13283.2	1867.3	5456.2	0	4935.1	7235.5	0	0	0	0	48005.7
Centroid Connector	0	0	0	0	0	0	46572.1	0	0	0	0	0	0	0	46572.1
<b>TOTAL</b>	<b>713.2</b>	<b>7562.8</b>	<b>4209.3</b>	<b>28676.5</b>	<b>128930.5</b>	<b>136919.3</b>	<b>265324.8</b>	<b>253984</b>	<b>97415.4</b>	<b>175305.8</b>	<b>145791.1</b>	<b>78296.1</b>	<b>113193.3</b>	<b>36284.3</b>	<b>1472606.4</b>

**AM Peak Period VHT**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	226.7	384.6	361.6	972.9
Freeway	0	0	0	0	598.8	1276.8	924.1	754.8	540.6	2451.5	1700.4	579.6	980.5	0	9807.1
Major	0	0	0	327.4	167.4	449.4	2028.6	2554.4	485.7	14.2	0	0	0	0	6027.1
Primary	0	0	0	220.9	1445	486.9	1611.1	1932.1	337.3	0	0	0	0	0	6033.3
Secondary	0	0	0	28.1	173.4	99.1	228.6	134.4	0	0	0	0	0	0	663.6
Local	0	0	0	0	0	0	71.2	0	0	0	0	0	0	0	71.2
Smart Street	0	0	0	193.5	538.3	398.8	398.4	343.4	583.6	17.6	0	0	0	0	2473.6
HOV Lanes	0	0	0	0	0	0	0	360.2	0	111	544.9	398.7	377.1	196.2	1988.1
Ramps	23.8	252	140.3	91.4	308.9	62.2	148.8	0	110	160	0	0	0	0	1297.4
Centroid Connector	0	0	0	0	0	0	1552.4	0	0	0	0	0	0	0	1552.4
<b>TOTAL</b>	<b>23.8</b>	<b>252</b>	<b>140.3</b>	<b>861.3</b>	<b>3231.8</b>	<b>2773.2</b>	<b>6963.2</b>	<b>6079.3</b>	<b>2057.2</b>	<b>2754.3</b>	<b>2245.3</b>	<b>1205</b>	<b>1742.2</b>	<b>557.8</b>	<b>30886.7</b>

**PM Peak Period VMT**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	10255.4	15273.7	56963.4	82492.5
Freeway	0	0	0	7827.8	0	75625.7	122727.9	85304.7	163202.8	196578.9	113684.2	107470.7	0	0	872422.7
Major	0	0	0	0	21545.1	15867.7	69763.7	162329.4	22119.3	1302.7	0	0	0	0	292927.9
Primary	0	0	0	19623	35861.6	35038.3	84008	82237.3	18090.5	0	0	0	0	0	274858.7
Secondary	0	0	975	1270.5	2013.6	7735.9	12146.6	6362.9	0	0	0	0	0	0	30504.5
Local	0	0	0	0	0	0	2499.4	0	0	0	0	0	0	0	2499.4
Smart Street	0	0	0	1814.3	25926.9	19000.2	29700.8	12078.3	42221.3	1243.9	0	0	0	0	131985.7
HOV Lanes	0	0	0	0	0	0	0	19016.2	10174.5	18244.3	21483.4	18568.7	78508.5	3472.2	169467.8
Ramps	2906.3	4500.3	7824.6	4204	1212.3	2246.9	3917.8	16593.7	10025.4	4114.5	0	0	0	0	57545.8
Centroid Connector	0	0	0	0	0	0	67896.2	0	0	0	0	0	0	0	67896.2
<b>TOTAL</b>	<b>2906.3</b>	<b>4500.3</b>	<b>8799.6</b>	<b>34739.6</b>	<b>86559.5</b>	<b>155514.7</b>	<b>392660.4</b>	<b>383922.5</b>	<b>265833.8</b>	<b>221484.3</b>	<b>135167.6</b>	<b>136294.8</b>	<b>93782.2</b>	<b>60435.6</b>	<b>1982601.2</b>

**PM Peak Period VHT**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	158.9	234.3	875.6	1268.8
Freeway	0	0	0	123.6	0	1160.3	1892.6	1311.8	2510.4	3029.1	1749.7	1652.8	0	0	13430.3
Major	0	0	0	0	613.4	453.3	1951	4403.2	552.2	28.2	0	0	0	0	8001.3
Primary	0	0	0	598.3	1127.2	1048.6	2423.7	2309.4	454.3	0	0	0	0	0	7961.5
Secondary	0	0	28.4	36.6	57.7	221.2	360.2	183.1	0	0	0	0	0	0	887.2
Local	0	0	0	0	0	0	83.3	0	0	0	0	0	0	0	83.3
Smart Street	0	0	0	57.3	811.8	479.4	802.1	286.1	1006.8	28.8	0	0	0	0	3472.3
HOV Lanes	0	0	0	0	0	0	0	293.5	156.1	281.3	331.3	285.8	1208.1	53.1	2609.2
Ramps	96.9	150.1	260.9	140.1	40.4	74.9	126.6	367	222.3	91.5	0	0	0	0	1570.7
Centroid Connector	0	0	0	0	0	0	2263.2	0	0	0	0	0	0	0	2263.2
<b>TOTAL</b>	<b>96.9</b>	<b>150.1</b>	<b>289.3</b>	<b>955.9</b>	<b>2650.5</b>	<b>3437.7</b>	<b>9902.7</b>	<b>9154.1</b>	<b>4902.1</b>	<b>3458.9</b>	<b>2081</b>	<b>2097.5</b>	<b>1442.4</b>	<b>928.7</b>	<b>41547.8</b>

**Mid-Day Period VMT**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	0	51571.2	51571.2
Freeway	0	0	0	0	0	0	0	9074.7	0	203694.4	396425.7	298500.5	199483.7	0	1107179
Major	0	0	0	0	0	0	4217.3	154051.2	83905	840.6	0	0	0	0	243014.1
Primary	0	0	0	0	0	0	26463.5	126185.3	35471.7	0	0	0	0	0	188120.5
Secondary	0	0	0	0	0	0	3845.1	19266.6	0	0	0	0	0	0	23111.7
Local	0	0	0	0	0	0	1247.4	0	0	0	0	0	0	0	1247.4
Smart Street	0	0	0	0	0	0	25858.2	0	50096	2223.2	0	0	0	0	78177.4
HOV Lanes	0	0	0	0	0	0	0	0	0	0	0	0	42755	113026.4	155781.4
Ramps	0	526	3342.8	3125.6	6710.1	7476.1	6696.1	0	0	22240.1	0	0	0	0	50116.8
Centroid Connector	0	0	0	0	0	0	63727.3	0	0	0	0	0	0	0	63727.3
<b>TOTAL</b>	0	526	3342.8	3125.6	6710.1	7476.1	132054.9	308577.8	169472.7	228998.3	396425.7	298500.5	242238.7	164597.6	1962046.8

**Mid-Day Period VHT**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	0	793	793
Freeway	0	0	0	0	0	0	0	143.3	0	3138.8	6108.5	4589.1	3065.9	0	17045.6
Major	0	0	0	0	0	0	119.7	4396.8	2103.2	18.2	0	0	0	0	6637.9
Primary	0	0	0	0	0	0	874.3	3585.7	887.4	0	0	0	0	0	5347.4
Secondary	0	0	0	0	0	0	115.1	551.7	0	0	0	0	0	0	666.8
Local	0	0	0	0	0	0	41.6	0	0	0	0	0	0	0	41.6
Smart Street	0	0	0	0	0	0	810.4	0	1194	51.6	0	0	0	0	2056
HOV Lanes	0	0	0	0	0	0	0	0	0	0	0	0	658.2	1740.7	2398.9
Ramps	0	17.5	111.4	104.1	223.7	249.2	223.2	0	0	493.2	0	0	0	0	1422.3
Centroid Connector	0	0	0	0	0	0	2124.2	0	0	0	0	0	0	0	2124.2
<b>TOTAL</b>	0	17.5	111.4	104.1	223.7	249.2	4308.5	8677.5	4184.6	3701.8	6108.5	4589.1	3724.1	2533.7	38533.7

**Night-Time Period VMT**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	0	24916.8	24916.8
Freeway	0	0	0	0	0	0	0	0	0	0	0	7931.2	293473	569323.7	870727.9
Major	0	0	0	0	0	0	45.4	111349	59092.9	438.1	0	0	0	0	170925.4
Primary	0	0	0	0	0	0	11527.6	71084.6	22670.3	0	0	0	0	0	105282.5
Secondary	0	0	0	0	0	0	455	10786.2	0	0	0	0	0	0	11241.2
Local	0	0	0	0	0	0	583	0	0	0	0	0	0	0	583
Smart Street	0	0	0	0	0	0	9988.6	0	24735.4	1196.6	0	0	0	0	35920.6
HOV Lanes	0	0	0	0	0	0	0	0	0	0	0	0	0	108302.4	108302.4
Ramps	0	0	1175.5	502.9	2203.8	5482.5	12399.6	0	0	8047.3	0	0	0	0	29811.6
Centroid Connector	0	0	0	0	0	0	38591.3	0	0	0	0	0	0	0	38591.3
<b>TOTAL</b>	0	0	1175.5	502.9	2203.8	5482.5	73590.5	193219.8	106498.6	9682	0	7931.2	293473	702542.9	1396302.7

**Night-Time Period VHT**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	0	383.1	383.1
Freeway	0	0	0	0	0	0	0	0	0	0	0	125.3	4527.4	8753.2	13405.9
Major	0	0	0	0	0	0	1.5	3176.8	1481.5	9.5	0	0	0	0	4669.3
Primary	0	0	0	0	0	0	383.6	2029.6	567.3	0	0	0	0	0	2980.5
Secondary	0	0	0	0	0	0	15.1	309.7	0	0	0	0	0	0	324.8
Local	0	0	0	0	0	0	19.5	0	0	0	0	0	0	0	19.5
Smart Street	0	0	0	0	0	0	313.1	0	589.5	27.8	0	0	0	0	930.4
HOV Lanes	0	0	0	0	0	0	0	0	0	0	0	0	0	1667.6	1667.6
Ramps	0	0	39.2	16.8	73.5	182.8	413.3	0	0	178.6	0	0	0	0	904.2
Centroid Connector	0	0	0	0	0	0	1286.4	0	0	0	0	0	0	0	1286.4
<b>TOTAL</b>	0	0	39.2	16.8	73.5	182.8	2432.5	5516.1	2638.3	215.9	0	125.3	4527.4	10803.9	26571.7

Horizon Year - Alt 2

AM Peak Period VMT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	35765.6	25190.7	60956.3
Freeway	0	0	0	0	48820.4	77974.4	3658.6	75218	33528.2	207748.5	40873.2	53898	112248.2	0	653967.5
Major	0	0	0	11561.3	3014.3	22814.9	66853.8	94231.5	20305.9	660.6	0	0	0	0	219442.3
Primary	0	0	0	10651.1	38831.2	16148.9	56206.4	69198.6	13216.9	0	0	0	0	0	204253.1
Secondary	0	0	0	979.9	5946.9	3324.2	7592	4761.1	0	0	0	0	0	0	22604.1
Local	0	0	0	0	0	0	1896	0	0	0	0	0	0	0	1896
Smart Street	0	0	0	6087.6	16846.9	3845	21670.8	15244.6	27141	741.8	0	0	0	0	91577.7
HOV Lanes	0	0	0	0	0	0	0	0	5891.2	14726.1	31357.6	35096.2	25147.9	19019.3	131238.3
Ramps	326.7	8192.8	5307.9	1277.5	14037.9	5144.9	2236.3	0	5489.1	7244.4	0	0	0	0	49257.5
Centroid Connector	0	0	0	0	0	0	46627.8	0	0	0	0	0	0	0	46627.8
<b>TOTAL</b>	<b>326.7</b>	<b>8192.8</b>	<b>5307.9</b>	<b>30557.4</b>	<b>127497.6</b>	<b>129252.3</b>	<b>206741.7</b>	<b>258653.8</b>	<b>105572.3</b>	<b>231121.4</b>	<b>72230.8</b>	<b>88994.2</b>	<b>173161.7</b>	<b>44210</b>	<b>1481820.6</b>

AM Peak Period VHT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	550.8	386.7	937.5
Freeway	0	0	0	0	754.5	1202.9	56.3	1158.1	516.1	3192.6	631.9	829.9	1725.1	0	10067.4
Major	0	0	0	329.8	86.3	628.3	1839.6	2584.1	508.6	14.4	0	0	0	0	5991.1
Primary	0	0	0	317	1194.4	479.3	1654.7	1932.2	331.7	0	0	0	0	0	5909.3
Secondary	0	0	0	28.2	170.3	99.1	223.6	136.7	0	0	0	0	0	0	657.9
Local	0	0	0	0	0	0	63.2	0	0	0	0	0	0	0	63.2
Smart Street	0	0	0	189.7	529	91.3	570.2	361.1	647	17.2	0	0	0	0	2405.5
HOV Lanes	0	0	0	0	0	0	0	0	91	226.8	482.8	540.2	387.2	292.6	2020.6
Ramps	10.9	273.1	176.9	42.5	331.2	136.2	74.5	0	122.4	160.2	0	0	0	0	1327.9
Centroid Connector	0	0	0	0	0	0	1554.2	0	0	0	0	0	0	0	1554.2
<b>TOTAL</b>	<b>10.9</b>	<b>273.1</b>	<b>176.9</b>	<b>907.2</b>	<b>3065.7</b>	<b>2637.1</b>	<b>6036.3</b>	<b>6172.2</b>	<b>2216.8</b>	<b>3611.2</b>	<b>1114.7</b>	<b>1370.1</b>	<b>2663.1</b>	<b>679.3</b>	<b>30934.6</b>

PM Peak Period VMT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	10213.2	14959.8	54960.8	80133.8
Freeway	0	0	0	8028.9	0	120027.9	51733.3	6689.8	172673.6	267022.4	44025	210814.8	14389.6	0	895405.3
Major	0	0	0	4210.3	16644.6	22340.4	66945.8	160708.8	19848.3	1297.2	0	0	0	0	291995.4
Primary	0	0	0	15656.8	37985.6	33971.4	79461	81346.5	20413.5	0	0	0	0	0	268834.8
Secondary	0	0	0	2188.8	2068.7	7775.9	12998.2	5395.5	0	0	0	0	0	0	30427.1
Local	0	0	0	0	0	0	2553.7	0	0	0	0	0	0	0	2553.7
Smart Street	0	0	0	1817.2	25444.5	18640.4	26279.2	13750.6	40686.5	1158.1	0	0	0	0	127776.5
HOV Lanes	0	0	0	0	0	0	0	0	17628.2	9575.3	11645.4	26021.5	102390.4	4222.8	171483.6
Ramps	1353.4	6837.7	6929.9	4240.7	1976.9	1038.7	4640.8	16181	10029.4	4191.9	0	0	0	0	57420.4
Centroid Connector	0	0	0	0	0	0	67889.3	0	0	0	0	0	0	0	67889.3
<b>TOTAL</b>	<b>1353.4</b>	<b>6837.7</b>	<b>6929.9</b>	<b>36142.7</b>	<b>84120.3</b>	<b>203794.7</b>	<b>312501.3</b>	<b>284072.2</b>	<b>281279.5</b>	<b>283244.9</b>	<b>55670.4</b>	<b>247049.5</b>	<b>131739.8</b>	<b>59183.6</b>	<b>1993919.9</b>

PM Peak Period VHT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	158.3	229.5	844.7	1232.5
Freeway	0	0	0	126.8	0	1844.8	799	106	2659.1	4111.2	675.4	3240.1	221.7	0	13784.1
Major	0	0	0	119.3	474.4	619.4	1877.2	4364.2	494.7	28.1	0	0	0	0	7977.3
Primary	0	0	0	465.9	1205.6	1007	2311.1	2284.8	512.6	0	0	0	0	0	7787
Secondary	0	0	0	63.3	59.2	222.3	384.9	155	0	0	0	0	0	0	884.7
Local	0	0	0	0	0	0	85.1	0	0	0	0	0	0	0	85.1
Smart Street	0	0	0	57.4	796.7	470.7	717.7	326.4	969.4	26.9	0	0	0	0	3365.2
HOV Lanes	0	0	0	0	0	0	0	0	271.1	147.8	180	400.8	1575.7	64.6	2640
Ramps	45.1	228	231	141.3	65.9	34.6	150.6	357.8	222.4	93.3	0	0	0	0	1570
Centroid Connector	0	0	0	0	0	0	2263	0	0	0	0	0	0	0	2263
<b>TOTAL</b>	<b>45.1</b>	<b>228</b>	<b>231</b>	<b>974</b>	<b>2601.8</b>	<b>4198.8</b>	<b>8588.6</b>	<b>7594.2</b>	<b>5129.3</b>	<b>4407.3</b>	<b>855.4</b>	<b>3799.2</b>	<b>2026.9</b>	<b>909.3</b>	<b>41588.9</b>

Mid-Day Period VMT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	0	42011.4	42011.4
Freeway	0	0	0	0	0	0	0	9209.5	7471.3	126790.1	272134.4	348154.5	367969.8	0	1131729.6
Major	0	0	0	0	0	0	4259.3	152714.1	81997.3	803.6	0	0	0	0	239774.3
Primary	0	0	0	0	0	0	25231.1	120170.8	36463.1	0	0	0	0	0	181865
Secondary	0	0	0	0	0	0	3843.8	19224.3	0	0	0	0	0	0	23068.1
Local	0	0	0	0	0	0	1215.3	0	0	0	0	0	0	0	1215.3
Smart Street	0	0	0	0	0	0	24910.9	0	47831.3	2103.1	0	0	0	0	74845.3
HOV Lanes	0	0	0	0	0	0	0	0	0	0	0	0	33141.9	122401.4	155543.3
Ramps	0	1344.4	925.8	5482.1	5904.6	7599.8	6472	0	0	26283.6	0	0	0	0	54012.3
Centroid Connector	0	0	0	0	0	0	63702.2	0	0	0	0	0	0	0	63702.2
<b>TOTAL</b>	0	1344.4	925.8	5482.1	5904.6	7599.8	129634.6	301318.7	173763	155980.4	272134.4	348154.5	401111.7	164412.8	1967766.8

Mid-Day Period VHT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	0	646.1	646.1
Freeway	0	0	0	0	0	0	0	145.4	116.2	1965.6	4188.3	5357.4	5650.9	0	17423.8
Major	0	0	0	0	0	0	120.8	4358.5	2055.2	17.4	0	0	0	0	6551.9
Primary	0	0	0	0	0	0	839.8	3424	912.4	0	0	0	0	0	5176.2
Secondary	0	0	0	0	0	0	115	550.5	0	0	0	0	0	0	665.5
Local	0	0	0	0	0	0	40.5	0	0	0	0	0	0	0	40.5
Smart Street	0	0	0	0	0	0	780.7	0	1140.1	48.8	0	0	0	0	1969.6
HOV Lanes	0	0	0	0	0	0	0	0	0	0	0	0	510.2	1884.9	2395.1
Ramps	0	44.8	30.9	182.8	196.8	253.3	215.8	0	0	583.1	0	0	0	0	1507.5
Centroid Connector	0	0	0	0	0	0	2123.4	0	0	0	0	0	0	0	2123.4
<b>TOTAL</b>	0	44.8	30.9	182.8	196.8	253.3	4236	8478.4	4223.9	2614.9	4188.3	5357.4	6161.1	2531	38499.6

Night-Time Period VMT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	0	24843.6	24843.6
Freeway	0	0	0	0	0	0	0	0	0	0	0	7944.8	266207.3	597457.5	871609.6
Major	0	0	0	0	0	0	45.4	111359.3	59120.3	438.1	0	0	0	0	170963.1
Primary	0	0	0	0	0	0	11539.7	71090.1	22591.3	0	0	0	0	0	105221.1
Secondary	0	0	0	0	0	0	455	10796.4	0	0	0	0	0	0	11251.4
Local	0	0	0	0	0	0	587.9	0	0	0	0	0	0	0	587.9
Smart Street	0	0	0	0	0	0	9977.8	0	24498.3	1177.7	0	0	0	0	35653.8
HOV Lanes	0	0	0	0	0	0	0	0	0	0	0	0	0	108390.8	108390.8
Ramps	0	0	1175.5	502.6	2204.1	5488.2	12411.7	0	0	8047.3	0	0	0	0	29829.4
Centroid Connector	0	0	0	0	0	0	38579.2	0	0	0	0	0	0	0	38579.2
<b>TOTAL</b>	0	0	1175.5	502.6	2204.1	5488.2	73596.7	193245.8	106209.9	9663.1	0	7944.8	266207.3	730691.9	1396929.9

Night-Time Period VHT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	0	382	382
Freeway	0	0	0	0	0	0	0	0	0	0	0	125.5	4108	9185.9	13419.4
Major	0	0	0	0	0	0	1.5	3177.1	1482.3	9.5	0	0	0	0	4670.4
Primary	0	0	0	0	0	0	384	2029.8	565.4	0	0	0	0	0	2979.2
Secondary	0	0	0	0	0	0	15.1	310	0	0	0	0	0	0	325.1
Local	0	0	0	0	0	0	19.6	0	0	0	0	0	0	0	19.6
Smart Street	0	0	0	0	0	0	312.7	0	583.8	27.3	0	0	0	0	923.8
HOV Lanes	0	0	0	0	0	0	0	0	0	0	0	0	0	1668.9	1668.9
Ramps	0	0	39.2	16.7	73.5	183	413.7	0	0	178.6	0	0	0	0	904.7
Centroid Connector	0	0	0	0	0	0	1286	0	0	0	0	0	0	0	1286
<b>TOTAL</b>	0	0	39.2	16.7	73.5	183	2432.6	5516.9	2631.5	215.4	0	125.5	4108	11236.8	26579.1

### Horizon Year - Alt 3

#### AM Peak Period VMT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	35367.6	25145.1	60512.7
Freeway	0	0	0	0	48908.6	78872.7	19026.9	40017.4	82999.1	109601.9	119265.9	35203.4	129231.1	0	663127
Major	0	0	0	11514.7	2915	21972.8	66473.7	95101.1	20086.5	683.6	0	0	0	0	218747.4
Primary	0	0	0	3291.6	45784.9	17712.8	49371.3	72113	13616.1	0	0	0	0	0	201889.7
Secondary	0	0	1000.9	0	6009.7	3396.6	7654.7	4808.7	0	0	0	0	0	0	22870.6
Local	0	0	0	0	0	0	1939.1	0	0	0	0	0	0	0	1939.1
Smart Street	0	0	0	6066.1	16757.2	3833.5	21679.9	15023.1	26804.2	733.9	0	0	0	0	90897.9
HOV Lanes	0	0	0	0	0	0	0	0	0	0	32056.1	53038.7	24813.4	19440	129348.2
Ramps	325.7	8708.5	3478.9	2621.7	4324.1	11471.4	5032	0	5085.3	7239.8	0	0	0	0	48287.4
Centroid Connector	0	0	0	0	0	0	46618.5	0	0	0	0	0	0	0	46618.5
<b>TOTAL</b>	<b>325.7</b>	<b>8708.5</b>	<b>4479.8</b>	<b>23494.1</b>	<b>124699.5</b>	<b>137259.8</b>	<b>217796.1</b>	<b>227063.3</b>	<b>148591.2</b>	<b>118259.2</b>	<b>151322</b>	<b>88242.1</b>	<b>189412.1</b>	<b>44585.1</b>	<b>1484238.5</b>

#### AM Peak Period VHT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	544.8	386	930.8
Freeway	0	0	0	0	755.8	1216.8	290	620	1273.2	1688.4	1836.4	541.3	1986.3	0	10208.2
Major	0	0	0	328.5	83	604.9	1829.1	2609	503.1	14.8	0	0	0	0	5972.4
Primary	0	0	0	100.2	1399.6	530.6	1458.6	2012.3	341.6	0	0	0	0	0	5842.9
Secondary	0	0	28.8	0	172	101.4	225.6	138.1	0	0	0	0	0	0	665.9
Local	0	0	0	0	0	0	64.7	0	0	0	0	0	0	0	64.7
Smart Street	0	0	0	189.1	526.2	91	569.9	355.9	638.9	17	0	0	0	0	2388
HOV Lanes	0	0	0	0	0	0	0	0	0	0	493.6	816.9	381.8	299.1	1991.4
Ramps	10.9	290.3	115.9	87.4	111.6	284.1	135.5	0	113.4	160.1	0	0	0	0	1309.2
Centroid Connector	0	0	0	0	0	0	1553.9	0	0	0	0	0	0	0	1553.9
<b>TOTAL</b>	<b>10.9</b>	<b>290.3</b>	<b>144.7</b>	<b>705.2</b>	<b>3048.2</b>	<b>2828.8</b>	<b>6127.3</b>	<b>5735.3</b>	<b>2870.2</b>	<b>1880.3</b>	<b>2330</b>	<b>1358.2</b>	<b>2912.9</b>	<b>685.1</b>	<b>30927.4</b>

#### PM Peak Period VMT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	10158	0	69301.6	79459.6
Freeway	0	0	0	8149.9	0	88554.5	84510.7	10746.5	144716.8	203613.3	93655.9	190540.4	79275.8	0	903763.8
Major	0	0	0	4204.4	17484.7	16339.4	72567.2	152115.4	27223.7	1338.7	0	0	0	0	291273.5
Primary	0	0	0	11028.5	37269.1	36479.2	79653.2	83744.4	20328.9	0	0	0	0	0	268503.3
Secondary	0	0	0	2176.6	2079.8	7792.8	13270.7	5165.5	0	0	0	0	0	0	30485.4
Local	0	0	0	0	0	0	2594.4	0	0	0	0	0	0	0	2594.4
Smart Street	0	0	0	1814.3	25730	18647.3	26183.1	9462.2	44150.9	1148.1	0	0	0	0	127135.9
HOV Lanes	0	0	0	0	0	0	0	0	0	9332.4	20457.6	24207.7	109293.4	5447.5	168738.6
Ramps	2811.8	5479.8	6919.5	4454.9	2219.4	1221	10779.1	11398.9	10052.5	4206.9	0	0	0	0	59543.8
Centroid Connector	0	0	0	0	0	0	67917.3	0	0	0	0	0	0	0	67917.3
<b>TOTAL</b>	<b>2811.8</b>	<b>5479.8</b>	<b>6919.5</b>	<b>31828.6</b>	<b>84783</b>	<b>169034.2</b>	<b>357475.7</b>	<b>272632.9</b>	<b>246472.8</b>	<b>219639.4</b>	<b>114113.5</b>	<b>224906.1</b>	<b>188569.2</b>	<b>74749.1</b>	<b>1999415.6</b>

#### PM Peak Period VHT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	157.3	0	1064.7	1222
Freeway	0	0	0	128.6	0	1361.3	1304.9	167.9	2226.2	3139.9	1437.3	2929.8	1217	0	13912.9
Major	0	0	0	119.1	498.4	467	2025.6	4138.7	681.6	29	0	0	0	0	7959.4
Primary	0	0	0	333.9	1171.7	1093.9	2324	2346.6	510.5	0	0	0	0	0	7780.6
Secondary	0	0	0	63	59.6	222.7	391.7	148.9	0	0	0	0	0	0	885.9
Local	0	0	0	0	0	0	86.5	0	0	0	0	0	0	0	86.5
Smart Street	0	0	0	57.3	805.7	470.7	715.2	224.9	1051.3	26.7	0	0	0	0	3351.8
HOV Lanes	0	0	0	0	0	0	0	0	0	143.2	315.9	372.9	1682.2	83.4	2597.6
Ramps	93.7	182.7	230.6	148.5	74	35.9	285.5	252.4	222.9	93.6	0	0	0	0	1619.8
Centroid Connector	0	0	0	0	0	0	2263.9	0	0	0	0	0	0	0	2263.9
<b>TOTAL</b>	<b>93.7</b>	<b>182.7</b>	<b>230.6</b>	<b>850.4</b>	<b>2609.4</b>	<b>3651.5</b>	<b>9397.3</b>	<b>7279.4</b>	<b>4692.5</b>	<b>3432.4</b>	<b>1753.2</b>	<b>3460</b>	<b>2899.2</b>	<b>1148.1</b>	<b>41680.4</b>

Mid-Day Period VMT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	0	41648	41648
Freeway	0	0	0	0	0	0	0	9265.8	7541.1	127276.4	294503.5	205254.1	493351.6	0	1137192.5
Major	0	0	0	0	0	0	4303.7	152727.7	82090.3	806.3	0	0	0	0	239928
Primary	0	0	0	0	0	0	26711.4	115957.3	38000.4	0	0	0	0	0	180669.1
Secondary	0	0	0	0	0	0	3853.3	19244.2	0	0	0	0	0	0	23097.5
Local	0	0	0	0	0	0	1211.2	0	0	0	0	0	0	0	1211.2
Smart Street	0	0	0	0	0	0	24634.5	0	46808.9	2065.8	0	0	0	0	73509.2
HOV Lanes	0	0	0	0	0	0	0	0	0	0	0	0	33142.5	122309.4	155451.9
Ramps	0	1350.7	923.2	5528.4	5920.8	7856	6353.7	0	0	26375.3	0	0	0	0	54308.1
Centroid Connector	0	0	0	0	0	0	63699.9	0	0	0	0	0	0	0	63699.9
<b>TOTAL</b>	<b>0</b>	<b>1350.7</b>	<b>923.2</b>	<b>5528.4</b>	<b>5920.8</b>	<b>7856</b>	<b>130767.7</b>	<b>297195</b>	<b>174440.7</b>	<b>156523.8</b>	<b>294503.5</b>	<b>205254.1</b>	<b>526494.1</b>	<b>163957.4</b>	<b>1970715.4</b>

Mid-Day Period VHT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	0	640.5	640.5
Freeway	0	0	0	0	0	0	0	146.3	117.3	1973.1	4533	3160.3	7578	0	17508
Major	0	0	0	0	0	0	122.1	4358.9	2057.4	17.4	0	0	0	0	6555.8
Primary	0	0	0	0	0	0	881.9	3309.8	950.8	0	0	0	0	0	5142.5
Secondary	0	0	0	0	0	0	115.3	551	0	0	0	0	0	0	666.3
Local	0	0	0	0	0	0	40.4	0	0	0	0	0	0	0	40.4
Smart Street	0	0	0	0	0	0	772	0	1115.7	47.9	0	0	0	0	1935.6
HOV Lanes	0	0	0	0	0	0	0	0	0	0	0	0	510.2	1883.4	2393.6
Ramps	0	45	30.8	184.3	197.3	261.9	211.8	0	0	585.2	0	0	0	0	1516.3
Centroid Connector	0	0	0	0	0	0	2123.3	0	0	0	0	0	0	0	2123.3
<b>TOTAL</b>	<b>0</b>	<b>45</b>	<b>30.8</b>	<b>184.3</b>	<b>197.3</b>	<b>261.9</b>	<b>4266.8</b>	<b>8366</b>	<b>4241.2</b>	<b>2623.6</b>	<b>4533</b>	<b>3160.3</b>	<b>8088.2</b>	<b>2523.9</b>	<b>38522.3</b>

Night-Time Period VMT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	0	24744.4	24744.4
Freeway	0	0	0	0	0	0	0	0	0	0	0	7963.1	266527.1	598353.4	872843.6
Major	0	0	0	0	0	0	45.4	111348.6	59112.8	438.1	0	0	0	0	170944.9
Primary	0	0	0	0	0	0	11538	71081.6	22575	0	0	0	0	0	105194.6
Secondary	0	0	0	0	0	0	455	10785.9	0	0	0	0	0	0	11240.9
Local	0	0	0	0	0	0	587.9	0	0	0	0	0	0	0	587.9
Smart Street	0	0	0	0	0	0	9969.6	0	24434.7	1172.4	0	0	0	0	35576.7
HOV Lanes	0	0	0	0	0	0	0	0	0	0	0	0	0	108064.8	108064.8
Ramps	0	0	1175.5	501.6	2205.6	5497.4	12415.4	0	0	8047.3	0	0	0	0	29842.8
Centroid Connector	0	0	0	0	0	0	38578.7	0	0	0	0	0	0	0	38578.7
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>1175.5</b>	<b>501.6</b>	<b>2205.6</b>	<b>5497.4</b>	<b>73590</b>	<b>193216.1</b>	<b>106122.5</b>	<b>9657.8</b>	<b>0</b>	<b>7963.1</b>	<b>266527.1</b>	<b>731162.6</b>	<b>1397619.3</b>

Night-Time Period VHT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	0	380.5	380.5
Freeway	0	0	0	0	0	0	0	0	0	0	0	125.8	4112.9	9199.8	13438.5
Major	0	0	0	0	0	0	1.5	3176.8	1482	9.5	0	0	0	0	4669.8
Primary	0	0	0	0	0	0	383.9	2029.5	565	0	0	0	0	0	2978.4
Secondary	0	0	0	0	0	0	15.1	309.7	0	0	0	0	0	0	324.8
Local	0	0	0	0	0	0	19.6	0	0	0	0	0	0	0	19.6
Smart Street	0	0	0	0	0	0	312.5	0	582.4	27.2	0	0	0	0	922.1
HOV Lanes	0	0	0	0	0	0	0	0	0	0	0	0	0	1663.9	1663.9
Ramps	0	0	39.2	16.7	73.5	183.3	413.9	0	0	178.6	0	0	0	0	905.2
Centroid Connector	0	0	0	0	0	0	1286	0	0	0	0	0	0	0	1286
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>39.2</b>	<b>16.7</b>	<b>73.5</b>	<b>183.3</b>	<b>2432.5</b>	<b>5516</b>	<b>2629.4</b>	<b>215.3</b>	<b>0</b>	<b>125.8</b>	<b>4112.9</b>	<b>11244.2</b>	<b>26588.8</b>

## **C. Emissions Modeling and Calculations**

Existing\_corridor.ec

Title : Existing  
 Version : CT-EMFAC 2.6  
 Run Date : 11 October 2012 10:24 AM  
 Scen Year : 2011  
 Season : Annual  
 Temperature : 68F  
 Relative Humidity : 59%  
 Area : Orange County

Peak User Input :  
 Total VMT : 1707269  
 Volume (vph) :  
 Road Length(mi) :

		VMT Distribution(%) by Speed(mph)												
		5	10	15	20	25	30	35	40	45	50			
55	60	65	70	>75										
22.5	15.5	12.4	5.1		.1	.6	.6	.4	.3	3.2	13.8	7.2	6.8	11.5

Offpeak User Input:  
 Total VMT : 1873575  
 Volume (vph) :  
 Road Length(mi) :

		VMT Distribution(%) by Speed(mph)											
		5	10	15	20	25	30	35	40	45	50		
55	60	65	70	>75									
0.4	19.6	22.7	49		.1	.3	.2	.5	6				1.2

Running Exhaust Emissions (grams)

Pollutant Name : TOG\_exh

speed(mph)	Emission Factor(grams/mile)	VMT by Speed
VMT-Speed	Di stri buti on (%)	Emissions by Speed
5	0.598000	1,707.27
10	0.392000	12,117.19
15	0.265000	10,243.61
20	0.193000	12,449.80
25	0.153000	8,868.96
30	0.127000	64,000.48
35	0.110000	348,017.62
40	0.100000	122,923.37
45	0.096000	116,094.29
50	0.097000	218,818.84

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
5	0.011000	18.779959	1,707.27
10	0.009000	109.054701	12,117.19
15	0.007000	71.705298	10,243.61
20	0.006000	74.698806	12,449.80
25	0.005000	44.344785	8,868.96
30	0.004000	256.001932	64,000.48
35	0.004000	1,392.070488	348,017.62
40	0.004000	491.693472	122,923.37
45	0.004000	464.377168	116,094.29
50	0.004000	875.275340	218,818.84
55	0.004000	1,566.519300	391,629.83
60	0.004000	2,527.389580	631,847.40
65	0.005000	3,185.014405	637,002.88
70	0.005000	5,025.612345	1,005,122.47
75	0.005000	0.000000	0.00
0.00	0.000000		
<hr/>			
Total	100.00	460,037.077686	3,580,844.00

Pollutant Name : SO2

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
5	0.011000	18.779959	1,707.27
10	0.009000	109.054701	12,117.19
15	0.007000	71.705298	10,243.61
20	0.006000	74.698806	12,449.80
25	0.005000	44.344785	8,868.96
30	0.004000	256.001932	64,000.48
35	0.004000	1,392.070488	348,017.62
40	0.004000	491.693472	122,923.37
45	0.004000	464.377168	116,094.29
50	0.004000	875.275340	218,818.84
55	0.004000	1,566.519300	391,629.83
60	0.004000	2,527.389580	631,847.40
65	0.005000	3,185.014405	637,002.88
70	0.005000	5,025.612345	1,005,122.47
75	0.005000	0.000000	0.00
0.00	0.000000		
<hr/>			
Total	100.00	16,102.537579	3,580,844.00

Pollutant Name : Di esel \_PM

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
5	0.033005	56.348413	1,707.27
0.05			

		Existing_corridor.ec	
10		0.023555	12,117.19
0.34		285.420387	
15		0.016660	10,243.61
0.29		170.658609	
20		0.012460	12,449.80
0.35		155.124520	
25		0.010465	8,868.96
0.25		92.813635	
30		0.008995	64,000.48
1.79		575.684345	
35		0.007980	348,017.62
9.72		2,777.180624	
40		0.007385	122,923.37
3.43		907.789073	
45		0.007210	116,094.29
3.24		837.039845	
50		0.007385	218,818.84
6.11		1,615.977096	
55		0.007945	391,629.83
10.94		3,111.498960	
60		0.008820	631,847.40
17.65		5,572.894024	
65		0.010080	637,002.88
17.79		6,420.989040	
70		0.011655	1,005,122.47
28.07		11,714.702376	
75		0.013615	0.00
0.00		0.000000	
-----			
Total	100.00	34,294.120948	3,580,844.00

Pollutant Name : PM2.5

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0.100000	170.726900	1,707.27
0.05		811.851663	
10	0.067000	481.449858	12,117.19
0.34		423.293234	10,243.61
15	0.047000	239.461839	12,449.80
0.29		1,408.010626	8,868.96
20	0.034000	1,973.602964	64,000.48
0.35		6,612.334818	348,017.62
25	0.027000	2,089.697256	122,923.37
0.25		1,719.920195	116,094.29
30	0.022000	7,049.336850	218,818.84
1.79		12,005.100505	391,629.83
35	0.019000	12,005.100505	631,847.40
9.72		0.022000	637,002.88
40	0.017000		
3.43			
45	0.017000		
3.24			
50	0.017000		
6.11			
55	0.018000		
10.94			
60	0.019000		
17.65			
65	0.022000		

Existing_corridor.ec		
17.79	14,014.063382	
70	0.024000	1,005,122.47
28.07	24,122.939256	
75	0.026000	0.00
0.00	0.000000	
-----		
Total	75,121.789346	3,580,844.00
100.00		

Pollutant Name : PM10

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.108000	1,707.27
0.05	184.385052	
10	0.073000	12,117.19
0.34	884.554797	
15	0.050000	10,243.61
0.29	512.180700	
20	0.037000	12,449.80
0.35	460.642637	
25	0.029000	8,868.96
0.25	257.199753	
30	0.024000	64,000.48
1.79	1,536.011592	
35	0.021000	348,017.62
9.72	7,308.370062	
40	0.019000	122,923.37
3.43	2,335.543992	
45	0.018000	116,094.29
3.24	2,089.697256	
50	0.018000	218,818.84
6.11	3,938.739030	
55	0.019000	391,629.83
10.94	7,440.966675	
60	0.021000	631,847.40
17.65	13,268.795295	
65	0.024000	637,002.88
17.79	15,288.069144	
70	0.026000	1,005,122.47
28.07	26,133.184194	
75	0.028000	0.00
0.00	0.000000	
-----		
Total	81,638.340179	3,580,844.00
100.00		

Pollutant Name : NOX

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.984000	1,707.27
0.05	1,679.952696	
10	0.785000	12,117.19
0.34	9,511.993365	
15	0.654000	10,243.61
0.29	6,699.323556	
20	0.583000	12,449.80
0.35	7,258.233983	

Speed (mph)	EMISSION FACTOR (%)	Existing Corridor Emissions (grams/mile)	VMT by Speed
25	0.25	0.545000	8,868.96
30	1.79	4,833.581565	64,000.48
35	9.72	0.520000	348,017.62
40	3.43	33,280.251160	122,923.37
45	3.24	0.506000	116,094.29
50	6.11	61,830.454104	218,818.84
55	10.94	0.510000	391,629.83
60	17.65	59,208.088920	631,847.40
65	17.79	0.528000	637,002.88
70	28.07	115,536.344880	1,005,122.47
75	0.00	0.560000	0.00
		0.609000	
		384,795.063555	
		0.681000	
		433,798.961961	
		0.763000	
		766,908.443847	
		0.886000	
		0.000000	
-----			
Total	100.00	2,280,750.312324	3,580,844.00

Pollutant Name : FORMALDEHYDE

speed(mph)	EMISSION FACTOR (%)	EMISSIONS BY SPEED (grams/mile)	VMT BY SPEED
5	0.05	0.027154	1,707.27
10	0.34	46.359182	12,117.19
15	0.29	0.016612	10,243.61
20	0.35	201.290744	12,449.80
25	0.25	0.009831	8,868.96
30	1.79	100.704969	64,000.48
35	9.72	0.006515	348,017.62
40	3.43	81.110454	122,923.37
45	3.24	0.005255	116,094.29
50	6.11	46.606369	218,818.84
55	10.94	0.004373	391,629.83
60	17.65	279.874112	631,847.40
65	17.79	0.003758	637,002.88
70	28.07	1,307.850223	1,005,122.47
75	0.00	0.003389	0.00
		416.587294	
		0.003215	
		373.243149	
		0.003236	
		708.097750	
		0.003460	
		1,355.039195	
		0.003900	
		2,464.204841	
		0.004613	
		2,938.494290	
		0.005401	
		5,428.666455	
		0.006535	
		0.000000	
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Exi sti ng\_corri dor. ec

Total	100.00	15,748.129027	3,580,844.00
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Pollutant Name : CO2

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed	
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed		
5	1,180.663000	1,707.27	
0.05	2,015,709.339347		
10	895.979000	12,117.19	
0.34	10,856,746.883031		
15	706.556000	10,243.61	
0.29	7,237,686.933384		
20	579.055000	12,449.80	
0.35	7,209,119.518055		
25	494.408000	8,868.96	
0.25	4,384,883.292456		
30	437.635000	64,000.48	
1.79	28,008,851.377705		
35	401.195000	348,017.62	
9.72	139,622,929.858290		
40	380.615000	122,923.37	
3.43	46,786,477.711320		
45	373.519000	116,094.29	
3.24	43,363,423.853548		
50	379.146000	218,818.84	
6.11	82,964,286.014910		
55	398.200000	391,629.83	
10.94	155,946,996.315000		
60	432.985000	631,847.40	
17.65	273,580,444.324075		
65	487.889000	637,002.88	
17.79	310,786,698.608209		
70	494.160000	1,005,122.47	
28.07	496,691,319.281040		
75	504.116000	0.00	
0.00	0.000000		
<hr style="border-top: 1px dashed black;"/>			
Total	100.00	1,609,455,573.310370	3,580,844.00

Pollutant Name : CO

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	5.098000	1,707.27
0.05	8,703.657362	
10	4.254000	12,117.19
0.34	51,546.522006	
15	3.652000	10,243.61
0.29	37,409.678328	
20	3.210000	12,449.80
0.35	39,963.861210	
25	2.881000	8,868.96
0.25	25,551.465117	
30	2.627000	64,000.48
1.79	168,129.268841	
35	2.433000	348,017.62
9.72	846,726.874326	

		Existing_corridor.ec	
40		2. 289000	122, 923. 37
3. 43		281, 371. 589352	
45		2. 193000	116, 094. 29
3. 24		254, 594. 782356	
50		2. 149000	218, 818. 84
6. 11		470, 241. 676415	
55		2. 166000	391, 629. 83
10. 94		848, 270. 200950	
60		2. 266000	631, 847. 40
17. 65		1, 431, 766. 197070	
65		2. 489000	637, 002. 88
17. 79		1, 585, 500. 170809	
70		2. 802000	1, 005, 122. 47
28. 07		2, 816, 353. 158138	
75		3. 345000	0. 00
0. 00		0. 000000	
-----			
Total		8, 866, 129. 102280	3, 580, 844. 00
	100. 00		

Pollutant Name : BUTADIENE

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0. 002887		1, 707. 27
0. 05	4. 928886		
10	0. 001940		12, 117. 19
0. 34	23. 507347		
15	0. 001364		10, 243. 61
0. 29	13. 972289		
20	0. 001016		12, 449. 80
0. 35	12. 648998		
25	0. 000806		8, 868. 96
0. 25	7. 148379		
30	0. 000674		64, 000. 48
1. 79	43. 136326		
35	0. 000589		348, 017. 62
9. 72	204. 982379		
40	0. 000545		122, 923. 37
3. 43	66. 993236		
45	0. 000529		116, 094. 29
3. 24	61. 413880		
50	0. 000540		218, 818. 84
6. 11	118. 162171		
55	0. 000584		391, 629. 83
10. 94	228. 711818		
60	0. 000662		631, 847. 40
17. 65	418. 282975		
65	0. 000793		637, 002. 88
17. 79	505. 143285		
70	0. 000911		1, 005, 122. 47
28. 07	915. 666569		
75	0. 001099		0. 00
0. 00	0. 000000		
-----			
Total		2, 624. 698538	3, 580, 844. 00
	100. 00		

Pollutant Name : BENZENE

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0.014123		1,707.27
0.05	24.111760		
10	0.009348		12,117.19
0.34	113.271483		
15	0.006413		10,243.61
0.29	65.692297		
20	0.004703		12,449.80
0.35	58.551414		
25	0.003734		8,868.96
0.25	33.116685		
30	0.003118		64,000.48
1.79	199.553506		
35	0.002713		348,017.62
9.72	944.171808		
40	0.002501		122,923.37
3.43	307.431343		
45	0.002415		116,094.29
3.24	280.367715		
50	0.002460		218,818.84
6.11	538.294334		
55	0.002648		391,629.83
10.94	1,037.035777		
60	0.002995		631,847.40
17.65	1,892.382948		
65	0.003577		637,002.88
17.79	2,278.559305		
70	0.004096		1,005,122.47
28.07	4,116.981633		
75	0.004916		0.00
0.00	0.000000		
-----			
Total			3,580,844.00
	100.00	11,889.522009	

Po ll utant Name : ACROLEIN

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0.000622		1,707.27
0.05	1.061921		
10	0.000423		12,117.19
0.34	5.125571		
15	0.000303		10,243.61
0.29	3.103815		
20	0.000228		12,449.80
0.35	2.838555		
25	0.000181		8,868.96
0.25	1.605281		
30	0.000151		64,000.48
1.79	9.664073		
35	0.000132		348,017.62
9.72	45.938326		
40	0.000122		122,923.37
3.43	14.996651		
45	0.000119		116,094.29
3.24	13.815221		
50	0.000121		218,818.84
6.11	26.477079		

		Existing_corridor.ec	
55		0.000131	391,629.83
10.94		51.303507	
60		0.000148	631,847.40
17.65		93.513414	
65		0.000177	637,002.88
17.79		112.749510	
70		0.000203	1,005,122.47
28.07		204.039861	
75		0.000243	0.00
0.00		0.000000	
-----			
Total	100.00	586.232786	3,580,844.00

Pollutant Name : ACETALDEHYDE

speed(mph)	Emi ssi on Factor(grams/mi le)		VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed		
5	0.011372		1,707.27
0.05	19.415063		
10	0.006811		12,117.19
0.34	82.530174		
15	0.003848		10,243.61
0.29	39.417427		
20	0.002457		12,449.80
0.35	30.589161		
25	0.001995		8,868.96
0.25	17.693569		
30	0.001660		64,000.48
1.79	106.240802		
35	0.001421		348,017.62
9.72	494.533041		
40	0.001271		122,923.37
3.43	156.235601		
45	0.001199		116,094.29
3.24	139.197056		
50	0.001202		218,818.84
6.11	263.020240		
55	0.001284		391,629.83
10.94	502.852695		
60	0.001447		631,847.40
17.65	914.283181		
65	0.001707		637,002.88
17.79	1,087.363918		
70	0.002024		1,005,122.47
28.07	2,034.367877		
75	0.002467		0.00
0.00	0.000000		
-----			
Total	100.00	5,887.739804	3,580,844.00

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 Idling Emi ssi ons (grams) (Currentl y NOT Avai l abl e)  
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-----  
 Evaporative Running Loss Emissions (grams)  
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Pollutant Name : TOG\_Ios  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 149,027.804517                      0.037000                      67,129.64

Pollutant Name : FORMALDEHYDE  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 0.000000                              0.000000                      67,129.64

Pollutant Name : BUTADIENE  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 12.083336                              0.000003                      67,129.64

Pollutant Name : BENZENE  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 1,482.222488                              0.000368                      67,129.64

Pollutant Name : ACROLEIN  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 0.000000                              0.000000                      67,129.64

Pollutant Name : ACETALDEHYDE  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 0.000000                              0.000000                      67,129.64

Exi sti ng\_corri dor. ec

Total Emi ssi ons

-----

Pol l utant Name	Total Emi ssi ons (grams)	Total Emi ssi ons (Ki l ograms)
Total Emi ssi ons (US Tons)		
TOG	609,064.882203	609.064882
0.671379109		
S02	16,102.537579	16.102538
0.017750009		
Di esel _PM	34,294.120948	34.294121
0.037802797		
PM2.5	75,121.789346	75.121789
0.082807598		
PM10	81,638.340179	81.638340
0.089990866		
NOX	2,280,750.312324	2,280.750312
2.514096867		
FORMALDEHYDE	15,748.129027	15.748129
0.017359341		
CO2	1,609,455,573.310370	1,609,455.573310
1,774.121082890		
CO	8,866,129.102280	8,866.129102
9.773234394		
BUTADIENE	2,636.781873	2.636782
0.002906554		
BENZENE	13,371.744497	13.371744
0.014739825		
ACROLEIN	586.232786	0.586233
0.000646211		
ACETALDEHYDE	5,887.739804	5.887740
0.006490122		

-----  
 END-----

Existing\_surrounding.ec

Title : Existing  
 Version : CT-EMFAC 2.6  
 Run Date : 11 October 2012 05:11 PM  
 Scen Year : 2011  
 Season : Annual  
 Temperature : 68F  
 Relative Humidity : 59%  
 Area : Orange County

Peak User Input :  
 Total VMT : 1156505  
 Volume (vph) :  
 Road Length(mi) :

Number of Hours :  
 VMT Distribution(%) by Speed(mph)  
 55 60 65 70 >75  
 (mph) 5 10 15 20 25 30 35 40 45 50  
 2.7 7.7  
 % .1 2.4 6.3 9.6 21.2 37.3 12.4 .3

Offpeak User Input:  
 Total VMT : 729153  
 Volume (vph) :  
 Road Length(mi) :

Number of Hours :  
 VMT Distribution(%) by Speed(mph)  
 55 60 65 70 >75  
 (mph) 5 10 15 20 25 30 35 40 45 50  
 6.4  
 % 7.5 54 31.7 .4

-----  
 Running Exhaust Emissions (grams)  
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Pollutant Name : TOG\_exh

speed(mph)	Emission Factor(grams/mile)	VMT by Speed
VMT-Speed Distribution (%)	Emissions by Speed	
5	0.598000	0.00
0.00	0.000000	
10	0.392000	0.00
0.00	0.000000	
15	0.265000	1,156.51
0.06	306.473825	
20	0.193000	27,756.12
1.47	5,356.931160	
25	0.153000	72,859.82
3.86	11,147.551695	
30	0.127000	111,024.48
5.89	14,100.108960	
35	0.110000	299,865.54
15.90	32,985.208850	
40	0.100000	825,118.99
43.76	82,511.898500	
45	0.096000	374,548.12
19.86	35,956.619616	
50	0.097000	6,386.13

Existing_surrounding.ec		
0.34	619.454319	
55	0.104000	0.00
0.00	0.000000	
60	0.116000	0.00
0.00	0.000000	
65	0.138000	31,225.64
1.66	4,309.137630	
70	0.154000	135,716.68
7.20	20,900.368258	
75	0.180000	0.00
0.00	0.000000	
-----		
Total		1,885,658.00
100.00	208,193.752813	

Pollutant Name : SO2

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.011000	0.00
0.00	0.000000	
10	0.009000	0.00
0.00	0.000000	
15	0.007000	1,156.51
0.06	8.095535	
20	0.006000	27,756.12
1.47	166.536720	
25	0.005000	72,859.82
3.86	364.299075	
30	0.004000	111,024.48
5.89	444.097920	
35	0.004000	299,865.54
15.90	1,199.462140	
40	0.004000	825,118.99
43.76	3,300.475940	
45	0.004000	374,548.12
19.86	1,498.192484	
50	0.004000	6,386.13
0.34	25.544508	
55	0.004000	0.00
0.00	0.000000	
60	0.004000	0.00
0.00	0.000000	
65	0.005000	31,225.64
1.66	156.128175	
70	0.005000	135,716.68
7.20	678.583385	
75	0.005000	0.00
0.00	0.000000	
-----		
Total		1,885,658.00
100.00	7,841.415882	

Pollutant Name : Diesel\_PM

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.033005	0.00
0.00	0.000000	

Speed (mph)	Existing Surrounding.ec	EMISSIONS
10	0.023555	0.00
0.00	0.000000	
15	0.016660	1,156.51
0.06	19.267373	
20	0.012460	27,756.12
1.47	345.841255	
25	0.010465	72,859.82
3.86	762.477964	
30	0.008995	111,024.48
5.89	998.665198	
35	0.007980	299,865.54
15.90	2,392.926969	
40	0.007385	825,118.99
43.76	6,093.503704	
45	0.007210	374,548.12
19.86	2,700.491952	
50	0.007385	6,386.13
0.34	47.161548	
55	0.007945	0.00
0.00	0.000000	
60	0.008820	0.00
0.00	0.000000	
65	0.010080	31,225.64
1.66	314.754401	
70	0.011655	135,716.68
7.20	1,581.777870	
75	0.013615	0.00
0.00	0.000000	
<hr/>		
Total	15,256.868235	1,885,658.00
100.00		

Pollutant Name : PM2.5

speed(mph)	EMISSIONS	VMT by Speed
VT-Speed Distribution (%)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed
5	0.100000	0.00
0.00	0.000000	
10	0.067000	0.00
0.00	0.000000	
15	0.047000	1,156.51
0.06	54.355735	
20	0.034000	27,756.12
1.47	943.708080	
25	0.027000	72,859.82
3.86	1,967.215005	
30	0.022000	111,024.48
5.89	2,442.538560	
35	0.019000	299,865.54
15.90	5,697.445165	
40	0.017000	825,118.99
43.76	14,027.022745	
45	0.017000	374,548.12
19.86	6,367.318057	
50	0.017000	6,386.13
0.34	108.564159	
55	0.018000	0.00
0.00	0.000000	
60	0.019000	0.00
0.00	0.000000	
65	0.022000	31,225.64

Existing_surrounding.ec		
70	1.66	686.963970
		0.024000
75	7.20	3,257.200248
		0.026000
	0.00	0.000000
-----		
Total	100.00	35,552.331724
		1,885,658.00

Pollutant Name : PM10

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.108000	0.00
	0.000000	
10	0.073000	0.00
	0.000000	
15	0.050000	1,156.51
	57.825250	
20	0.037000	27,756.12
	1,026.976440	
25	0.029000	72,859.82
	2,112.934635	
30	0.024000	111,024.48
	2,664.587520	
35	0.021000	299,865.54
	6,297.176235	
40	0.019000	825,118.99
	15,677.260715	
45	0.018000	374,548.12
	6,741.866178	
50	0.018000	6,386.13
	114.950286	
55	0.019000	0.00
	0.000000	
60	0.021000	0.00
	0.000000	
65	0.024000	31,225.64
	749.415240	
70	0.026000	135,716.68
	3,528.633602	
75	0.028000	0.00
	0.000000	
-----		
Total	100.00	38,971.626101
		1,885,658.00

Pollutant Name : NOX

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.984000	0.00
	0.000000	
10	0.785000	0.00
	0.000000	
15	0.654000	1,156.51
	756.354270	
20	0.583000	27,756.12
	16,181.817960	

Speed (mph)	EMISSION FACTOR (%)	Existing_surrounding.ec	EMISSIONS
25	3.86	0.545000	72,859.82
30	5.89	39,708.599175	111,024.48
35	15.90	0.520000	299,865.54
40	43.76	57,732.729600	825,118.99
45	19.86	0.506000	374,548.12
50	0.34	151,731.960710	6,386.13
55	0.00	0.503000	0.00
60	0.00	415,034.849455	0.00
65	1.66	0.510000	31,225.64
70	7.20	0.528000	135,716.68
75	0.00	3,371.875056	0.00
		0.560000	
		0.000000	
		0.609000	
		0.000000	
		0.681000	
		21,264.657435	
		0.763000	
		103,551.824551	
		0.886000	
		0.000000	
-----			
Total	100.00	1,000,354.209922	1,885,658.00

Pollutant Name : FORMALDEHYDE

speed(mph)	EMISSION FACTOR (%)	EMISSIONS	VMT by Speed
5	0.00	0.027154	0.00
10	0.00	0.000000	0.00
15	0.06	0.016612	1,156.51
20	1.47	0.009831	27,756.12
25	3.86	11.369601	72,859.82
30	5.89	0.006515	111,024.48
35	15.90	180.831122	299,865.54
40	43.76	0.005255	825,118.99
45	19.86	382.878328	374,548.12
50	0.34	0.004373	6,386.13
55	0.00	485.510051	0.00
60	0.00	0.003758	0.00
65	1.66	1,126.894681	31,225.64
70	7.20	0.003389	135,716.68
75	0.00	2,796.328240	0.00
		0.003215	
		1,204.172209	
		0.003236	
		20.665507	
		0.003460	
		0.000000	
		0.003900	
		0.000000	
		0.004613	
		144.043854	
		0.005401	
		733.005772	
		0.006535	
		0.000000	

Total		Exi sti ng_surroundi ng. ec	
	100.00		7, 085. 699365
			1, 885, 658. 00

Poll utant Name : CO2

speed(mph)	Emi ssi on	Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed		
5		1, 180. 663000	0. 00
0. 00		0. 000000	
10		895. 979000	0. 00
0. 00		0. 000000	
15		706. 556000	1, 156. 51
0. 06		817, 135. 546780	
20		579. 055000	27, 756. 12
1. 47		16, 072, 320. 066600	
25		494. 408000	72, 859. 82
3. 86		36, 022, 475. 414520	
30		437. 635000	111, 024. 48
5. 89		48, 588, 198. 304800	
35		401. 195000	299, 865. 54
15. 90		120, 304, 553. 314325	
40		380. 615000	825, 118. 99
43. 76		314, 052, 662. 475775	
45		373. 519000	374, 548. 12
19. 86		139, 900, 839. 607799	
50		379. 146000	6, 386. 13
0. 34		2, 421, 274. 507542	
55		398. 200000	0. 00
0. 00		0. 000000	
60		432. 985000	0. 00
0. 00		0. 000000	
65		487. 889000	31, 225. 64
1. 66		15, 234, 643. 834515	
70		494. 160000	135, 716. 68
7. 20		67, 065, 753. 106320	
75		504. 116000	0. 00
0. 00		0. 000000	
-----			
Total	100.00	760, 479, 856. 178976	1, 885, 658. 00

Poll utant Name : CO

speed(mph)	Emi ssi on	Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed		
5		5. 098000	0. 00
0. 00		0. 000000	
10		4. 254000	0. 00
0. 00		0. 000000	
15		3. 652000	1, 156. 51
0. 06		4, 223. 556260	
20		3. 210000	27, 756. 12
1. 47		89, 097. 145200	
25		2. 881000	72, 859. 82
3. 86		209, 909. 127015	
30		2. 627000	111, 024. 48
5. 89		291, 661. 308960	
35		2. 433000	299, 865. 54
15. 90		729, 572. 846655	

Speed (mph)	Existing_surrounding.ec	
40	2.289000	825,118.99
43.76	1,888,697.356665	
45	2.193000	374,548.12
19.86	821,384.029353	
50	2.149000	6,386.13
0.34	13,723.786923	
55	2.166000	0.00
0.00	0.000000	
60	2.266000	0.00
0.00	0.000000	
65	2.489000	31,225.64
1.66	77,720.605515	
70	2.802000	135,716.68
7.20	380,278.128954	
75	3.345000	0.00
0.00	0.000000	
<hr/>		
Total	4,506,267.891500	1,885,658.00
100.00		

Pollutant Name : BUTADIENE

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.002887	0.00
0.00	0.000000	
10	0.001940	0.00
0.00	0.000000	
15	0.001364	1,156.51
0.06	1.577473	
20	0.001016	27,756.12
1.47	28.200218	
25	0.000806	72,859.82
3.86	58.725011	
30	0.000674	111,024.48
5.89	74.830500	
35	0.000589	299,865.54
15.90	176.620800	
40	0.000545	825,118.99
43.76	449.689847	
45	0.000529	374,548.12
19.86	198.135956	
50	0.000540	6,386.13
0.34	3.448509	
55	0.000584	0.00
0.00	0.000000	
60	0.000662	0.00
0.00	0.000000	
65	0.000793	31,225.64
1.66	24.761929	
70	0.000911	135,716.68
7.20	123.637893	
75	0.001099	0.00
0.00	0.000000	
<hr/>		
Total	1,139.628134	1,885,658.00
100.00		

Pollutant Name : BENZENE

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VT-Speed Di stri buti on (%)			
5	0.014123		0.00
0.00	0.000000		
10	0.009348		0.00
0.00	0.000000		
15	0.006413		1,156.51
0.06	7.416667		
20	0.004703		27,756.12
1.47	130.537032		
25	0.003734		72,859.82
3.86	272.058549		
30	0.003118		111,024.48
5.89	346.174329		
35	0.002713		299,865.54
15.90	813.535196		
40	0.002501		825,118.99
43.76	2,063.622581		
45	0.002415		374,548.12
19.86	904.533712		
50	0.002460		6,386.13
0.34	15.709872		
55	0.002648		0.00
0.00	0.000000		
60	0.002995		0.00
0.00	0.000000		
65	0.003577		31,225.64
1.66	111.694096		
70	0.004096		135,716.68
7.20	555.895509		
75	0.004916		0.00
0.00	0.000000		
-----			
Total			1,885,658.00
	100.00	5,221.177545	

Po ll utant Name : ACROLEIN

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VT-Speed Di stri buti on (%)			
5	0.000622		0.00
0.00	0.000000		
10	0.000423		0.00
0.00	0.000000		
15	0.000303		1,156.51
0.06	0.350421		
20	0.000228		27,756.12
1.47	6.328395		
25	0.000181		72,859.82
3.86	13.187627		
30	0.000151		111,024.48
5.89	16.764696		
35	0.000132		299,865.54
15.90	39.582251		
40	0.000122		825,118.99
43.76	100.664516		
45	0.000119		374,548.12
19.86	44.571226		
50	0.000121		6,386.13
0.34	0.772721		

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
55	0.000131	0.000000	0.00
0.00	0.000148	0.000000	0.00
60	0.000177	5.526937	31,225.64
0.00	0.000203	27.550485	135,716.68
65	0.000243	0.000000	0.00
1.66			
70			
7.20			
75			
0.00			
-----			
Total	100.00	255.299277	1,885,658.00

Pollutant Name : ACETALDEHYDE

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
5	0.011372	0.000000	0.00
0.00	0.006811	0.000000	0.00
10	0.003848	4.450231	1,156.51
0.00	0.002457	68.196787	27,756.12
15	0.001995	145.355331	72,859.82
0.06	0.001660	184.300637	111,024.48
20	0.001421	426.108925	299,865.54
1.47	0.001271	1,048.726230	825,118.99
25	0.001199	449.083197	374,548.12
3.86	0.001202	7.676125	6,386.13
30	0.001284	0.000000	0.00
5.89	0.001447	0.000000	0.00
35	0.001707	53.302159	31,225.64
15.90	0.002024	274.690554	135,716.68
40	0.002467	0.000000	0.00
43.76			
45			
19.86			
50			
0.34			
55			
0.00			
60			
0.00			
65			
1.66			
70			
7.20			
75			
0.00			
-----			
Total	100.00	2,661.890176	1,885,658.00

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 Idling Emi ssi ons (grams) (Currentl y NOT Avai l abl e)  
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Exi sti ng\_surroundi ng. ec

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 Evaporati ve Runni ng Loss Emi ssi ons (grams)  
 -----

Pol l utant Name : TOG\_I os  
 Emi ssi on Factor(grams/mi n) total runni ng ti me(hrs)  
 Emi ssi ons  
 106,883.885671 0.037000 48,145.89

Pol l utant Name : FORMALDEHYDE  
 Emi ssi on Factor(grams/mi n) total runni ng ti me(hrs)  
 Emi ssi ons  
 0.000000 0.000000 48,145.89

Pol l utant Name : BUTADI ENE  
 Emi ssi on Factor(grams/mi n) total runni ng ti me(hrs)  
 Emi ssi ons  
 8.666261 0.000003 48,145.89

Pol l utant Name : BENZENE  
 Emi ssi on Factor(grams/mi n) total runni ng ti me(hrs)  
 Emi ssi ons  
 1,063.061349 0.000368 48,145.89

Pol l utant Name : ACROLEI N  
 Emi ssi on Factor(grams/mi n) total runni ng ti me(hrs)  
 Emi ssi ons  
 0.000000 0.000000 48,145.89

Pol l utant Name : ACETALDEHYDE  
 Emi ssi on Factor(grams/mi n) total runni ng ti me(hrs)  
 Emi ssi ons  
 0.000000 0.000000 48,145.89  
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Exi sti ng\_surroundi ng. ec

Total Emi ssi ons

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Pol l utant Name	Total Emi ssi ons (grams)	Total Emi ssi ons (Ki l ograms)
Total Emi ssi ons (US Tons)		
TOG	315, 077. 638484	315. 077638
0. 347313645		
S02	7, 841. 415882	7. 841416
0. 008643681		
Di esel _PM	15, 256. 868235	15. 256868
0. 016817818		
PM2. 5	35, 552. 331724	35. 552332
0. 039189737		
PM10	38, 971. 626101	38. 971626
0. 042958864		
NOX	1, 000, 354. 209922	1, 000. 354210
1. 102701761		
FORMALDEHYDE	7, 085. 699365	7. 085699
0. 007810647		
C02	760, 479, 856. 178976	760, 479. 856179
838. 285547196		
CO	4, 506, 267. 891500	4, 506. 267892
4. 967310067		
BUTADI ENE	1, 148. 294395	1. 148294
0. 001265778		
BENZENE	6, 284. 238894	6. 284239
0. 006927188		
ACROLEI N	255. 299277	0. 255299
0. 000281419		
ACETALDEHYDE	2, 661. 890176	2. 661890
0. 002934232		

-----  
 END-----

Opening Year\_Alt1\_corridor.ec

Title : Opening Year  
 Version : CT-EMFAC 2.6  
 Run Date : 11 October 2012 10:31 AM  
 Scen Year : 2022  
 Season : Annual  
 Temperature : 68F  
 Relative Humidity : 59%  
 Area : Orange County

Peak User Input :  
 Total VMT : 1871319  
 Volume (vph) :  
 Road Length(mi) :

		VMT Distribution(%) by Speed(mph)											
		5	10	15	20	25	30	35	40	45	50	>75	
55	60	65	70										
19.2	13.1	10.8	3.4	.1	.7	.7	.5	1.2	5	14.3	8.1	8.4	14.5

Offpeak User Input:  
 Total VMT : 2062452  
 Volume (vph) :  
 Road Length(mi) :

		VMT Distribution(%) by Speed(mph)											
		5	10	15	20	25	30	35	40	45	50	>75	
55	60	65	70										
6.8	16.8	22.3	42.4	.1	.1	.3	.3	.5	5.6	.2		4.6	

-----  
 Runni ng Exhaust Emission s (grams)  
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Pollutant Name : TOG\_exh

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed	Di stri buti on (%)	Emi ssi on s by Speed
5	0.268000	1,871.32
0.05	501.513492	
10	0.175000	15,161.69
0.39	2,653.294875	
15	0.118000	15,161.69
0.39	1,789.078830	
20	0.087000	15,543.95
0.40	1,352.323737	
25	0.069000	28,643.18
0.73	1,976.379696	
30	0.058000	103,878.21
2.64	6,024.936180	
35	0.051000	383,095.93
9.74	19,537.892379	
40	0.047000	155,701.74
3.96	7,317.981921	
45	0.046000	157,190.80
4.00	7,230.776616	
50	0.047000	366,214.05

Opening Year\_Alt1\_corridor.ec

Speed (mph)	EMISSION FACTOR (grams/mile)	EMISSIONS	VMT
5	0.011000	17,212.06209	1,871.32
10	0.009000	20,584.509	15,161.69
15	0.007000	24,976.999200	15,161.69
20	0.006000	33,723.179325	15,543.95
25	0.005000	45,017.988864	28,643.18
30	0.004000	75,986.464014	103,878.21
35	0.004000	0.050000	383,095.93
40	0.004000	0.057000	383,095.93
45	0.004000	0.068000	383,095.93
50	0.004000	0.081000	383,095.93
55	0.004000	0.101000	383,095.93
60	0.005000	0.000000	383,095.93
65	0.005000	0.000000	383,095.93
70	0.005000	0.000000	383,095.93
75	0.005000	0.000000	383,095.93
0.00	0.000000	0.000000	0.00
<b>Total</b>	<b>100.00</b>	<b>245,300.869338</b>	<b>3,933,771.00</b>

Pollutant Name : SO2

speed(mph)	EMISSION FACTOR (grams/mile)	EMISSIONS	VMT
5	0.011470	1,871.32	1,871.32
10	0.009000	21,464.029	15,161.69
15	0.007000	136,455.165	15,161.69
20	0.006000	106,131.795	15,543.95
25	0.005000	93,263.706	28,643.18
30	0.004000	143,215.920	103,878.21
35	0.004000	415,512.840	383,095.93
40	0.004000	1,532,383.716	383,095.93
45	0.004000	622,806.972	383,095.93
50	0.004000	628,763.184	383,095.93
55	0.004000	1,464,856.188	383,095.93
60	0.004000	1,998,159.936	383,095.93
65	0.005000	2,366,538.900	383,095.93
70	0.005000	3,310,146.240	383,095.93
75	0.005000	4,690,522.470	383,095.93
0.00	0.000000	0.000000	0.00
<b>Total</b>	<b>100.00</b>	<b>17,529.341541</b>	<b>3,933,771.00</b>

Pollutant Name : Diesel\_PM

speed(mph)	EMISSION FACTOR (grams/mile)	EMISSIONS	VMT
5	0.011470	1,871.32	1,871.32
10	0.009000	21,464.029	15,161.69

Opening Year\_Alt1\_corridor.ec

10		0.008843	15,161.69
0.39		134.074780	
15		0.006919	15,161.69
0.39		104.903699	
20		0.005624	15,543.95
0.40		87.419180	
25		0.004847	28,643.18
0.73		138.833513	
30		0.004292	103,878.21
2.64		445.845277	
35		0.003959	383,095.93
9.74		1,516.676783	
40		0.003774	155,701.74
3.96		587.618378	
45		0.003737	157,190.80
4.00		587.422005	
50		0.003848	366,214.05
9.31		1,409.191653	
55		0.004070	499,539.98
12.70		2,033.127735	
60		0.004440	591,634.73
15.04		2,626.858179	
65		0.004884	662,029.25
16.83		3,233.350847	
70		0.005476	938,104.49
23.85		5,137.06209	
75		0.006179	0.00
0.00		0.000000	
-----			
Total	100.00	18,063.846267	3,933,771.00

Pollutant Name : PM2.5

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0.090000	1,871.32	
0.05	168.418710		
10	0.060000	15,161.69	
0.39	909.701100		
15	0.042000	15,161.69	
0.39	636.790770		
20	0.031000	15,543.95	
0.40	481.862481		
25	0.024000	28,643.18	
0.73	687.436416		
30	0.020000	103,878.21	
2.64	2,077.564200		
35	0.017000	383,095.93	
9.74	6,512.630793		
40	0.015000	155,701.74	
3.96	2,335.526145		
45	0.014000	157,190.80	
4.00	2,200.671144		
50	0.014000	366,214.05	
9.31	5,126.996658		
55	0.015000	499,539.98	
12.70	7,493.099760		
60	0.017000	591,634.73	
15.04	10,057.790325		
65	0.019000	662,029.25	

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16.83	12,578.555712	
70	0.020000	938,104.49
23.85	18,762.089880	
75	0.020000	0.00
0.00	0.000000	
-----		
Total	70,029.134094	3,933,771.00
100.00		

Pollutant Name : PM10

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.097000	1,871.32
0.05	181.517943	
10	0.065000	15,161.69
0.39	985.509525	
15	0.045000	15,161.69
0.39	682.275825	
20	0.033000	15,543.95
0.40	512.950383	
25	0.026000	28,643.18
0.73	744.722784	
30	0.021000	103,878.21
2.64	2,181.442410	
35	0.018000	383,095.93
9.74	6,895.726722	
40	0.016000	155,701.74
3.96	2,491.227888	
45	0.016000	157,190.80
4.00	2,515.052736	
50	0.016000	366,214.05
9.31	5,859.424752	
55	0.016000	499,539.98
12.70	7,992.639744	
60	0.018000	591,634.73
15.04	10,649.425050	
65	0.021000	662,029.25
16.83	13,902.614208	
70	0.021000	938,104.49
23.85	19,700.194374	
75	0.022000	0.00
0.00	0.000000	
-----		
Total	75,294.724344	3,933,771.00
100.00		

Pollutant Name : NOX

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.418000	1,871.32
0.05	782.211342	
10	0.340000	15,161.69
0.39	5,154.972900	
15	0.286000	15,161.69
0.39	4,336.241910	
20	0.252000	15,543.95
0.40	3,917.075652	

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25		0.232000
0.73		6,645.218688
30		0.219000
2.64		22,749.327990
35		0.211000
9.74		80,833.241019
40		0.208000
3.96		32,385.962544
45		0.210000
4.00		33,010.067160
50		0.217000
9.31		79,468.448199
55		0.231000
12.70		115,393.736304
60		0.253000
15.04		149,683.585425
65		0.286000
16.83		189,340.364928
70		0.328000
23.85		307,698.274032
75		0.390000
0.00		0.000000
-----		
Total		
100.00		1,031,398.728093
		3,933,771.00

Pollutant Name : FORMALDEHYDE

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.012466	1,871.32
0.05	23.327863	
10	0.007577	15,161.69
0.39	114.880087	
15	0.004496	15,161.69
0.39	68.166936	
20	0.003082	15,543.95
0.40	47.906457	
25	0.002562	28,643.18
0.73	73.383837	
30	0.002183	103,878.21
2.64	226.766132	
35	0.001912	383,095.93
9.74	732.479416	
40	0.001731	155,701.74
3.96	269.519717	
45	0.001619	157,190.80
4.00	254.491899	
50	0.001583	366,214.05
9.31	579.716836	
55	0.001627	499,539.98
12.70	812.751554	
60	0.001759	591,634.73
15.04	1,040.685481	
65	0.001997	662,029.25
16.83	1,322.072408	
70	0.002315	938,104.49
23.85	2,171.711904	
75	0.002821	0.00
0.00	0.000000	
-----		

Total 100.00 Opening Year\_Alt1\_corridor.ec 7,737.860528 3,933,771.00

Pollutant Name : CO2

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	1,191.323000	1,871.32
0.05	2,229,345.365037	
10	904.528000	15,161.69
0.39	13,714,168.609680	
15	713.425000	15,161.69
0.39	10,816,725.121125	
20	584.757000	15,543.95
0.40	9,089,434.154907	
25	499.807000	28,643.18
0.73	14,316,063.865488	
30	442.773000	103,878.21
2.64	45,994,466.676330	
35	406.114000	383,095.93
9.74	155,580,620.109906	
40	385.360000	155,701.74
3.96	60,001,223.682480	
45	378.139000	157,190.80
4.00	59,439,970.408644	
50	383.695000	366,214.05
9.31	140,514,498.763665	
55	402.735000	499,539.98
12.70	201,182,235.456240	
60	437.570000	591,634.73
15.04	258,881,606.618250	
65	492.599000	662,029.25
16.83	326,114,945.535552	
70	499.536000	938,104.49
23.85	468,616,966.514784	
75	510.506000	0.00
0.00	0.000000	
-----		
Total	100.00	1,766,492,270.882090
		3,933,771.00

Pollutant Name : CO

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	2.291000	1,871.32
0.05	4,287.191829	
10	1.965000	15,161.69
0.39	29,792.711025	
15	1.721000	15,161.69
0.39	26,093.259885	
20	1.538000	15,543.95
0.40	23,906.596638	
25	1.397000	28,643.18
0.73	40,014.528048	
30	1.283000	103,878.21
2.64	133,275.743430	
35	1.191000	383,095.93
9.74	456,267.251439	

Opening Year_Alt1_corridor.ec		
40		1.118000
3.96		174,074.548674
45		1.064000
4.00		167,251.006944
50		1.030000
9.31		377,200.468410
55		1.019000
12.70		509,031.243696
60		1.040000
15.04		615,300.114000
65		1.109000
16.83		734,190.436032
70		1.279000
23.85		1,199,835.647826
75		1.576000
0.00		0.000000
-----		
Total	100.00	4,490,520.747876
		3,933,771.00

Pollutant Name : BUTADIENE

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.001091	1,871.32
0.05	2.041609	
10	0.000730	15,161.69
0.39	11.068030	
15	0.000512	15,161.69
0.39	7.762783	
20	0.000383	15,543.95
0.40	5.953333	
25	0.000307	28,643.18
0.73	8.793457	
30	0.000259	103,878.21
2.64	26.904456	
35	0.000231	383,095.93
9.74	88.495160	
40	0.000216	155,701.74
3.96	33.631576	
45	0.000211	157,190.80
4.00	33.167258	
50	0.000219	366,214.05
9.31	80.200876	
55	0.000242	499,539.98
12.70	120.888676	
60	0.000281	591,634.73
15.04	166.249358	
65	0.000342	662,029.25
16.83	226.414003	
70	0.000415	938,104.49
23.85	389.313365	
75	0.000533	0.00
0.00	0.000000	
-----		
Total	100.00	1,200.883941
		3,933,771.00

Pollutant Name : BENZENE

Opening Year\_Alt1\_corridor.ec

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0.005613		1,871.32
0.05	10.503714		
10	0.003687		15,161.69
0.39	55.901133		
15	0.002515		15,161.69
0.39	38.131638		
20	0.001854		15,543.95
0.40	28.818485		
25	0.001493		28,643.18
0.73	42.764274		
30	0.001259		103,878.21
2.64	130.782666		
35	0.001116		383,095.93
9.74	427.535057		
40	0.001037		155,701.74
3.96	161.462707		
45	0.001005		157,190.80
4.00	157.976750		
50	0.001033		366,214.05
9.31	378.299111		
55	0.001127		499,539.98
12.70	562.981562		
60	0.001296		591,634.73
15.04	766.758604		
65	0.001561		662,029.25
16.83	1,033.427656		
70	0.001874		938,104.49
23.85	1,758.007822		
75	0.002382		0.00
0.00	0.000000		
-----			
Total			3,933,771.00
	100.00	5,553.351177	

Pollutant Name : ACROLEIN

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0.000232		1,871.32
0.05	0.434146		
10	0.000157		15,161.69
0.39	2.380385		
15	0.000113		15,161.69
0.39	1.713270		
20	0.000085		15,543.95
0.40	1.321236		
25	0.000068		28,643.18
0.73	1.947737		
30	0.000057		103,878.21
2.64	5.921058		
35	0.000051		383,095.93
9.74	19.537892		
40	0.000048		155,701.74
3.96	7.473684		
45	0.000047		157,190.80
4.00	7.387967		
50	0.000049		366,214.05
9.31	17.944488		

speed(mph)	Emi ssi on Factor(grams/mi le)	Openi ng Year_Alt1_corri dor.ec	VMT by Speed
55	0.000054		499,539.98
12.70	26.975159		
60	0.000063		591,634.73
15.04	37.272988		
65	0.000077		662,029.25
16.83	50.976252		
70	0.000094		938,104.49
23.85	88.181822		
75	0.000120		0.00
0.00	0.000000		
-----			
Total	100.00	269.468084	3,933,771.00

Pollutant Name : ACETALDEHYDE

speed(mph)	Emi ssi on Factor(grams/mi le)	Openi ng Year_Alt1_corri dor.ec	VMT by Speed
5	0.005372		1,871.32
0.05	10.052726		
10	0.003207		15,161.69
0.39	48.623524		
15	0.001833		15,161.69
0.39	27.791369		
20	0.001229		15,543.95
0.40	19.103516		
25	0.001033		28,643.18
0.73	29.588409		
30	0.000884		103,878.21
2.64	91.828338		
35	0.000773		383,095.93
9.74	296.133153		
40	0.000695		155,701.74
3.96	108.212711		
45	0.000643		157,190.80
4.00	101.073682		
50	0.000618		366,214.05
9.31	226.320281		
55	0.000623		499,539.98
12.70	311.213410		
60	0.000658		591,634.73
15.04	389.295649		
65	0.000730		662,029.25
16.83	483.281351		
70	0.000836		938,104.49
23.85	784.255357		
75	0.001004		0.00
0.00	0.000000		
-----			
Total	100.00	2,926.773475	3,933,771.00

Idling Emi ssi ons (grams) (Currentl y NOT Avai l abl e)

-----  
 Evaporative Running Loss Emissions (grams)  
 -----

Pollutant Name : TOG\_Ios  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 114,707.964803                      0.025000                      76,471.98

Pollutant Name : FORMALDEHYDE  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 0.000000                              0.000000                      76,471.98

Pollutant Name : BUTADIENE  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 9.176637                                0.000002                      76,471.98

Pollutant Name : BENZENE  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 1,124.138055                          0.000245                      76,471.98

Pollutant Name : ACROLEIN  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 0.000000                                0.000000                      76,471.98

Pollutant Name : ACETALDEHYDE  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 0.000000                                0.000000                      76,471.98

Opening Year\_Alt1\_corridor.ec

Total Emissions

Pollutant Name	Total Emissions (grams)	Total Emissions (Kilograms)
Total Emissions (US Tons)		
TOG	360,008.834141	360.008834
0.396841810		
S02	17,529.341541	17.529342
0.019322791		
Di esel _PM	18,063.846267	18.063846
0.019911982		
PM2.5	70,029.134094	70.029134
0.077193907		
PM10	75,294.724344	75.294724
0.082998226		
NOX	1,031,398.728093	1,031.398728
1.136922484		
FORMALDEHYDE	7,737.860528	7.737861
0.008529531		
CO2	1,766,492,270.882090	1,766,492.270882
1,947.224410854		
CO	4,490,520.747876	4,490.520748
4.949951812		
BUTADIENE	1,210.060578	1.210061
0.001333863		
BENZENE	6,677.489232	6.677489
0.007360672		
ACROLEIN	269.468084	0.269468
0.000297038		
ACETALDEHYDE	2,926.773475	2.926773
0.003226216		

END

Openi ng Year\_Al t1\_surroundi ng.ec

Title : Openi ng Year  
 Versi on : CT-EMFAC 2.6  
 Run Date : 11 October 2012 10:34 AM  
 Scen Year : 2022  
 Season : Annual  
 Temperature : 68F  
 Relati ve Humi di ty : 59%  
 Area : Orange County

Peak User Input :  
 Total VMT : 1249317  
 Volume (vph) :  
 Road Length(mi) :

Number of Hours :  
 VMT Di stri buti on(%) by Speed(mph)  
 5 10 15 20 25 30 35 40 45 50  
 55 60 65 70 >75  
 .7 2.7 6.9  
 %  
 .1 2.8 8.2 9.4 22.6 34.9 11.4 .3

Offpeak User Input:  
 Total VMT : 799454  
 Volume (vph) :  
 Road Length(mi) :

Number of Hours :  
 VMT Di stri buti on(%) by Speed(mph)  
 5 10 15 20 25 30 35 40 45 50  
 55 60 65 70 >75  
 %  
 7.1  
 8.2 53.5 30.8 .4

Runni ng Exhaust Emi ssi ons (grams)

Poll utant Name : TOG\_exh

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.268000	0.00
0.00	0.000000	0.00
10	0.175000	0.00
0.00	0.000000	
15	0.118000	1,249.32
0.06	147.419406	
20	0.087000	34,980.88
1.71	3,043.336212	
25	0.069000	102,443.99
5.00	7,068.635586	
30	0.058000	117,435.80
5.73	6,811.276284	
35	0.051000	347,900.87
16.98	17,742.944370	
40	0.047000	863,719.52
42.16	40,594.817581	
45	0.046000	388,653.97
18.97	17,878.082620	
50	0.047000	6,945.77

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0.34	326.451049	
55 0.00	0.050000	0.00
60 0.43	0.000000	
65 1.65	0.057000	8,745.22
70 6.98	498.477483	
75 0.00	0.068000	33,731.56
	2,293.746012	
	0.081000	142,964.11
	11,580.092667	
	0.101000	0.00
	0.000000	
-----		
Total		2,048,771.00
100.00	107,985.279270	

Pollutant Name : SO2

speed(mph)	Emi ssi on Factor(grams/mi l e)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5 0.00	0.011000	0.00
10 0.00	0.000000	0.00
15 0.06	0.009000	
20 1.71	0.000000	1,249.32
25 5.00	0.007000	
30 5.73	8.745219	34,980.88
35 16.98	0.006000	
40 42.16	209.885256	102,443.99
45 18.97	0.005000	
50 0.34	512.219970	117,435.80
55 0.00	0.004000	
60 0.43	469.743192	347,900.87
65 1.65	0.004000	
70 6.98	1,391.603480	863,719.52
75 0.00	0.004000	
	3,454.878092	388,653.97
	0.004000	
	1,554.615880	6,945.77
	0.004000	
	27.783068	0.00
	0.004000	
	0.000000	
	0.004000	8,745.22
	34.980876	
	0.005000	33,731.56
	168.657795	
	0.005000	142,964.11
	714.820535	
	0.005000	0.00
	0.000000	
-----		
Total		2,048,771.00
100.00	8,547.933363	

Pollutant Name : Diesel\_PM

speed(mph)	Emi ssi on Factor(grams/mi l e)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5 0.00	0.011470	0.00
	0.000000	

Opening Year_Alt1_surrounding.ec		
10		0.008843
0.00		0.000000
15		0.006919
0.06		8.644024
20		0.005624
1.71		196.732447
25		0.004847
5.00		496.546039
30		0.004292
5.73		504.034445
35		0.003959
16.98		1,377.339544
40		0.003774
42.16		3,259.677480
45		0.003737
18.97		1,452.399886
50		0.003848
0.34		26.727311
55		0.004070
0.00		0.000000
60		0.004440
0.43		38.828772
65		0.004884
1.65		164.744934
70		0.005476
6.98		782.871450
75		0.006179
0.00		0.000000
-----		
Total	100.00	8,308.546333
		2,048,771.00

Pollutant Name : PM2.5

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.090000	0.00
0.00	0.000000	
10	0.060000	0.00
0.00	0.000000	
15	0.042000	1,249.32
0.06	52.471314	
20	0.031000	34,980.88
1.71	1,084.407156	
25	0.024000	102,443.99
5.00	2,458.655856	
30	0.020000	117,435.80
5.73	2,348.715960	
35	0.017000	347,900.87
16.98	5,914.314790	
40	0.015000	863,719.52
42.16	12,955.792845	
45	0.014000	388,653.97
18.97	5,441.155580	
50	0.014000	6,945.77
0.34	97.240738	
55	0.015000	0.00
0.00	0.000000	
60	0.017000	8,745.22
0.43	148.668723	
65	0.019000	33,731.56

Opening Year\_Alt1\_surrounding.ec

70	1.65	640.899621	0.020000	142,964.11
75	6.98	2,859.282140	0.020000	0.00
	0.00	0.000000		
-----				
Total	100.00	34,001.604723		2,048,771.00

Pollutant Name : PM10

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed	
VMT-Speed Di stri buti on (%)				
5	0.097000	0.000000	0.00	
10	0.065000	0.000000	0.00	
15	0.045000	56.219265	1,249.32	
20	0.033000	1,154.368908	34,980.88	
25	0.026000	2,663.543844	102,443.99	
30	0.021000	2,466.151758	117,435.80	
35	0.018000	6,262.215660	347,900.87	
40	0.016000	13,819.512368	863,719.52	
45	0.016000	6,218.463520	388,653.97	
50	0.016000	111.132272	6,945.77	
55	0.016000	0.000000	0.00	
60	0.018000	157.413942	8,745.22	
65	0.021000	708.362739	33,731.56	
70	0.021000	3,002.246247	142,964.11	
75	0.022000	0.000000	0.00	
-----				
Total	100.00	36,619.630523	2,048,771.00	

Pollutant Name : NOX

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0.418000	0.000000	0.00
10	0.340000	0.000000	0.00
15	0.286000	357.304662	1,249.32
20	0.252000	8,815.180752	34,980.88

Opening Year\_Alt1\_surrounding.ec

25		0.232000	102,443.99
5.00		23,767.006608	
30		0.219000	117,435.80
5.73		25,718.439762	
35		0.211000	347,900.87
16.98		73,407.083570	
40		0.208000	863,719.52
42.16		179,653.660784	
45		0.210000	388,653.97
18.97		81,617.333700	
50		0.217000	6,945.77
0.34		1,507.231439	
55		0.231000	0.00
0.00		0.000000	
60		0.253000	8,745.22
0.43		2,212.540407	
65		0.286000	33,731.56
1.65		9,647.225874	
70		0.328000	142,964.11
6.98		46,892.227096	
75		0.390000	0.00
0.00		0.000000	
-----			
Total	100.00	453,595.234654	2,048,771.00

Pollutant Name : FORMALDEHYDE

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.012466	0.00
0.00	0.000000	
10	0.007577	0.00
0.00	0.000000	
15	0.004496	1,249.32
0.06	5.616929	
20	0.003082	34,980.88
1.71	107.811060	
25	0.002562	102,443.99
5.00	262.461513	
30	0.002183	117,435.80
5.73	256.362347	
35	0.001912	347,900.87
16.98	665.186463	
40	0.001731	863,719.52
42.16	1,495.098494	
45	0.001619	388,653.97
18.97	629.230777	
50	0.001583	6,945.77
0.34	10.995149	
55	0.001627	0.00
0.00	0.000000	
60	0.001759	8,745.22
0.43	15.382840	
65	0.001997	33,731.56
1.65	67.361923	
70	0.002315	142,964.11
6.98	330.961908	
75	0.002821	0.00
0.00	0.000000	
-----		

Total 100.00 Opening Year\_Alt1\_surrounding.ec 3,846.469404 2,048,771.00

Pollutant Name : CO2

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	1,191.323000	0.00
0.00	0.000000	
10	904.528000	0.00
0.00	0.000000	
15	713.425000	1,249.32
0.06	891,293.980725	
20	584.757000	34,980.88
1.71	20,455,312.107132	
25	499.807000	102,443.99
5.00	51,202,225.309158	
30	442.773000	117,435.80
5.73	51,997,400.587854	
35	406.114000	347,900.87
16.98	141,287,413.919180	
40	385.360000	863,719.52
42.16	332,842,955.383280	
45	378.139000	388,653.97
18.97	146,965,223.561830	
50	383.695000	6,945.77
0.34	2,665,056.069065	
55	402.735000	0.00
0.00	0.000000	
60	437.570000	8,745.22
0.43	3,826,645.477830	
65	492.599000	33,731.56
1.65	16,616,132.231841	
70	499.536000	142,964.11
6.98	71,415,718.154352	
75	510.506000	0.00
0.00	0.000000	
-----		
Total	840,165,376.782247	2,048,771.00
100.00		

Pollutant Name : CO

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	2.291000	0.00
0.00	0.000000	
10	1.965000	0.00
0.00	0.000000	
15	1.721000	1,249.32
0.06	2,150.074557	
20	1.538000	34,980.88
1.71	53,800.587288	
25	1.397000	102,443.99
5.00	143,114.259618	
30	1.283000	117,435.80
5.73	150,670.128834	
35	1.191000	347,900.87
16.98	414,349.936170	

Opening Year\_Alt1\_surrounding.ec

40		1.118000	863,719.52
42.16		965,638.426714	
45		1.064000	388,653.97
18.97		413,527.824080	
50		1.030000	6,945.77
0.34		7,154.140010	
55		1.019000	0.00
0.00		0.000000	
60		1.040000	8,745.22
0.43		9,095.027760	
65		1.109000	33,731.56
1.65		37,408.298931	
70		1.279000	142,964.11
6.98		182,851.092853	
75		1.576000	0.00
0.00		0.000000	
-----			
Total	100.00	2,379,759.796815	2,048,771.00

Pollutant Name : BUTADIENE

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0.001091	0.000000	0.00
0.00	0.000000		
10	0.000730	0.000000	0.00
0.00	0.000000		
15	0.000512	0.639650	1,249.32
0.06	0.000383		34,980.88
20	13.397676		
1.71	0.000307		102,443.99
25	31.450306		
5.00	0.000259		117,435.80
30	30.415872		
5.73	0.000231		347,900.87
35	80.365101		
16.98	0.000216		863,719.52
40	186.563417		
42.16	0.000211		388,653.97
45	82.005988		
18.97	0.000219		6,945.77
50	1.521123		
0.34	0.000242		0.00
55	0.000000		
0.00	0.000281		8,745.22
60	2.457407		
0.43	0.000342		33,731.56
65	11.536193		
1.65	0.000415		142,964.11
70	59.330104		
6.98	0.000533		0.00
75	0.000000		
0.00			
-----			
Total	100.00	499.682836	2,048,771.00

Pollutant Name : BENZENE

speed(mph)		Opening Year	At t1	surrounding.ec	VMT by Speed	
VMT-Speed Distribution (%)		Emission Factor(grams/mile)		Emissions by Speed		
5		0.005613				0.00
0.00		0.000000				
10		0.003687				0.00
0.00		0.000000				
15		0.002515				1,249.32
0.06		3.142032				
20		0.001854				34,980.88
1.71		64.854544				
25		0.001493				102,443.99
5.00		152.948883				
30		0.001259				117,435.80
5.73		147.851670				
35		0.001116				347,900.87
16.98		388.257371				
40		0.001037				863,719.52
42.16		895.677145				
45		0.001005				388,653.97
18.97		390.597240				
50		0.001033				6,945.77
0.34		7.174977				
55		0.001127				0.00
0.00		0.000000				
60		0.001296				8,745.22
0.43		11.333804				
65		0.001561				33,731.56
1.65		52.654964				
70		0.001874				142,964.11
6.98		267.914737				
75		0.002382				0.00
0.00		0.000000				
----- Total						2,048,771.00
	100.00			2,382.407366		

Pollutant Name : ACROLEIN

speed(mph)		Opening Year	At t1	surrounding.ec	VMT by Speed	
VMT-Speed Distribution (%)		Emission Factor(grams/mile)		Emissions by Speed		
5		0.000232				0.00
0.00		0.000000				
10		0.000157				0.00
0.00		0.000000				
15		0.000113				1,249.32
0.06		0.141173				
20		0.000085				34,980.88
1.71		2.973374				
25		0.000068				102,443.99
5.00		6.966192				
30		0.000057				117,435.80
5.73		6.693840				
35		0.000051				347,900.87
16.98		17.742944				
40		0.000048				863,719.52
42.16		41.458537				
45		0.000047				388,653.97
18.97		18.266737				
50		0.000049				6,945.77
0.34		0.340343				

Opening Year\_Alt1\_surrounding.ec

55		0.000054	0.00
0.00		0.000000	
60		0.000063	8,745.22
0.43		0.550949	
65		0.000077	33,731.56
1.65		2.597330	
70		0.000094	142,964.11
6.98		13.438626	
75		0.000120	0.00
0.00		0.000000	
-----			
Total	100.00	111.170045	2,048,771.00

Pollutant Name : ACETALDEHYDE

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.005372	0.00
0.00	0.000000	
10	0.003207	0.00
0.00	0.000000	
15	0.001833	1,249.32
0.06	2.289998	
20	0.001229	34,980.88
1.71	42.991497	
25	0.001033	102,443.99
5.00	105.824646	
30	0.000884	117,435.80
5.73	103.813245	
35	0.000773	347,900.87
16.98	268.927373	
40	0.000695	863,719.52
42.16	600.285068	
45	0.000643	388,653.97
18.97	249.904503	
50	0.000618	6,945.77
0.34	4.292484	
55	0.000623	0.00
0.00	0.000000	
60	0.000658	8,745.22
0.43	5.754354	
65	0.000730	33,731.56
1.65	24.624038	
70	0.000836	142,964.11
6.98	119.517993	
75	0.001004	0.00
0.00	0.000000	
-----		
Total	100.00	1,528.225199
-----		
-----		
Idling Emi ssi ons (grams) (Currentl y NOT Avai labl e)		
-----		
-----		

Opening Year\_Alt1\_surrounding.ec

-----  
 Evaporative Running Loss Emissions (grams)  
 -----

Pollutant Name : TOG\_Ios  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 79,290.519327                      0.025000                      52,860.35

Pollutant Name : FORMALDEHYDE  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 0.000000                              0.000000                      52,860.35

Pollutant Name : BUTADIENE  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 6.343242                              0.000002                      52,860.35

Pollutant Name : BENZENE  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 777.047089                              0.000245                      52,860.35

Pollutant Name : ACROLEIN  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 0.000000                              0.000000                      52,860.35

Pollutant Name : ACETALDEHYDE  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 0.000000                              0.000000                      52,860.35

Opening Year\_Alt1\_surrounding.ec

Total Emissions

Pollutant Name	Total Emissions (grams)	Total Emissions (Kilograms)
Total Emissions (US Tons)		
TOG	187,275.798597	187.275799
0.206436231		
S02	8,547.933363	8.547933
0.009422484		
Di esel _PM	8,308.546333	8.308546
0.009158605		
PM2.5	34,001.604723	34.001605
0.037480353		
PM10	36,619.630523	36.619631
0.040366233		
NOX	453,595.234654	453.595235
0.500003158		
FORMALDEHYDE	3,846.469404	3.846469
0.004240007		
C02	840,165,376.782247	840,165.376782
926.123797874		
CO	2,379,759.796815	2,379.759797
2.623236141		
BUTADIENE	506.026078	0.506026
0.000557798		
BENZENE	3,159.454456	3.159454
0.003482702		
ACROLEIN	111.170045	0.111170
0.000122544		
ACETALDEHYDE	1,528.225199	1.528225
0.001684580		

END

Opening Year\_Alt2\_corrodi r.ec

Title : Opening Year  
 Version : CT-EMFAC 2.6  
 Run Date : 11 October 2012 10:36 AM  
 Scen Year : 2022  
 Season : Annual  
 Temperature : 68F  
 Relative Humidity : 59%  
 Area : Orange County

Peak User Input :  
 Total VMT : 1832815  
 Volume (vph) :  
 Road Length(mi) :

		VMT Distribution(%) by Speed(mph)												
		5	10	15	20	25	30	35	40	45	50			
55	60	65	70	>75										
16.2	15.6	12.3	3.5		.1	.6	.6	.5	1.4	5.8	11.8	6.3	8.7	16.6

Offpeak User Input:  
 Total VMT : 2072454  
 Volume (vph) :  
 Road Length(mi) :

		VMT Distribution(%) by Speed(mph)											
		5	10	15	20	25	30	35	40	45	50		
55	60	65	70	>75									
4.7	17.6	24.5	42.8		.1	.1	.2	.2	.5	5.6	.2	.1	3.4

Runni ng Exhaust Emi ssi ons (grams)

Poll utant Name : TOG\_exh

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed	Di stri buti on (%)	Emi ssi ons by Speed
5	0.05	1,832.82
10	0.33	13,069.34
15	0.33	13,069.34
20	0.34	13,308.98
25	0.76	29,804.32
30	2.99	116,665.54
35	8.51	332,329.59
40	3.06	119,612.25
45	4.14	161,527.36
50		374,710.73

Opening Year\_Alt2\_corrodi r.ec

9.60	17,611.404122	
55 0.05	0.050000	394,321.37
10.10	19,716.068400	
60 0.05	0.057000	650,671.04
16.66	37,088.249508	
65 0.06	0.068000	733,187.48
18.77	49,856.748300	
70 0.08	0.081000	951,158.84
24.36	77,043.865797	
75 0.10	0.101000	0.00
0.00	0.000000	
-----		
Total		3,905,269.00
100.00	245,618.672821	

Pollutant Name : SO2

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.011000	1,832.82
0.05	20.160965	
10	0.009000	13,069.34
0.33	117.624096	
15	0.007000	13,069.34
0.33	91.485408	
20	0.006000	13,308.98
0.34	79.853898	
25	0.005000	29,804.32
0.76	149.021590	
30	0.004000	116,665.54
2.99	466.662160	
35	0.004000	332,329.59
8.51	1,329.318376	
40	0.004000	119,612.25
3.06	478.449012	
45	0.004000	161,527.36
4.14	646.109436	
50	0.004000	374,710.73
9.60	1,498.842904	
55	0.004000	394,321.37
10.10	1,577.285472	
60	0.004000	650,671.04
16.66	2,602.684176	
65	0.005000	733,187.48
18.77	3,665.937375	
70	0.005000	951,158.84
24.36	4,755.794185	
75	0.005000	0.00
0.00	0.000000	
-----		
Total		3,905,269.00
100.00	17,479.229053	

Pollutant Name : Di esel \_PM

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.011470	1,832.82
0.05	21.022388	

		Opening Year_Alt2_corroding	ec
10		0.008843	13,069.34
0.33		115.572209	
15		0.006919	13,069.34
0.33		90.426791	
20		0.005624	13,308.98
0.34		74.849720	
25		0.004847	29,804.32
0.76		144.461529	
30		0.004292	116,665.54
2.99		500.728498	
35		0.003959	332,329.59
8.51		1,315.692863	
40		0.003774	119,612.25
3.06		451.416643	
45		0.003737	161,527.36
4.14		603.627741	
50		0.003848	374,710.73
9.60		1,441.886874	
55		0.004070	394,321.37
10.10		1,604.887968	
60		0.004440	650,671.04
16.66		2,888.979435	
65		0.004884	733,187.48
18.77		3,580.887628	
70		0.005476	951,158.84
24.36		5,208.545791	
75		0.006179	0.00
0.00		0.000000	
-----			
Total	100.00	18,042.986078	3,905,269.00

Pollutant Name : PM2.5

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0.090000		1,832.82
0.05	164.953350		
10	0.060000		13,069.34
0.33	784.160640		
15	0.042000		13,069.34
0.33	548.912448		
20	0.031000		13,308.98
0.34	412.578473		
25	0.024000		29,804.32
0.76	715.303632		
30	0.020000		116,665.54
2.99	2,333.310800		
35	0.017000		332,329.59
8.51	5,649.603098		
40	0.015000		119,612.25
3.06	1,794.183795		
45	0.014000		161,527.36
4.14	2,261.383026		
50	0.014000		374,710.73
9.60	5,245.950164		
55	0.015000		394,321.37
10.10	5,914.820520		
60	0.017000		650,671.04
16.66	11,061.407748		
65	0.019000		733,187.48

Opening Year\_Alt2\_corrodi r. ec

18.77	13,930.562025	951,158.84
70	0.020000	
24.36	19,023.176740	
75	0.020000	0.00
0.00	0.000000	
-----		
Total	69,840.306459	3,905,269.00
100.00		

Pollutant Name : PM10

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.097000	1,832.82
0.05	177.783055	
10	0.065000	13,069.34
0.33	849.507360	
15	0.045000	13,069.34
0.33	588.120480	
20	0.033000	13,308.98
0.34	439.196439	
25	0.026000	29,804.32
0.76	774.912268	
30	0.021000	116,665.54
2.99	2,449.976340	
35	0.018000	332,329.59
8.51	5,981.932692	
40	0.016000	119,612.25
3.06	1,913.796048	
45	0.016000	161,527.36
4.14	2,584.437744	
50	0.016000	374,710.73
9.60	5,995.371616	
55	0.016000	394,321.37
10.10	6,309.141888	
60	0.018000	650,671.04
16.66	11,712.078792	
65	0.021000	733,187.48
18.77	15,396.936975	
70	0.021000	951,158.84
24.36	19,974.335577	
75	0.022000	0.00
0.00	0.000000	
-----		
Total	75,147.527274	3,905,269.00
100.00		

Pollutant Name : NOX

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.418000	1,832.82
0.05	766.116670	
10	0.340000	13,069.34
0.33	4,443.576960	
15	0.286000	13,069.34
0.33	3,737.832384	
20	0.252000	13,308.98
0.34	3,353.863716	

Speed (mph)	Opening Year	Al t2_corrodi r. ec	VMT
25	0.76	0.232000	29,804.32
30	2.99	6,914.601776	116,665.54
35	8.51	0.219000	332,329.59
40	3.06	25,549.753260	119,612.25
45	4.14	0.211000	161,527.36
50	9.60	70,121.544334	374,710.73
55	10.10	0.208000	394,321.37
60	16.66	24,879.348624	650,671.04
65	18.77	0.210000	733,187.48
70	24.36	33,920.745390	951,158.84
75	0.00	0.217000	0.00
		81,312.227542	
		0.231000	
		91,088.236008	
		0.253000	
		164,619.774132	
		0.286000	
		209,691.617850	
		0.328000	
		311,980.098536	
		0.390000	
		0.000000	
-----			
Total	100.00	1,032,379.337182	3,905,269.00

Pollutant Name : FORMALDEHYDE

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0.012466	1,832.82	
10	22.847872	13,069.34	
15	0.007577	13,069.34	
20	99.026419	13,308.98	
25	0.004496	29,804.32	
30	58.759771	116,665.54	
35	0.003082	332,329.59	
40	41.018286	119,612.25	
45	0.002562	161,527.36	
50	76.358663	374,710.73	
55	0.002183	394,321.37	
60	254.680874	650,671.04	
65	0.001912	733,187.48	
70	635.414184	951,158.84	
75	0.001731	0.00	
	207.048810		
	0.001619		
	261.512794		
	0.001583		
	593.167079		
	0.001627		
	641.560866		
	0.001759		
	1,144.530366		
	0.001997		
	1,464.175388		
	0.002315		
	2,201.932708		
	0.002821		
	0.000000		
-----			

Total 100.00 Opening Year\_Al t2\_corrodi r. ec 3, 905, 269. 00  
 7, 702. 034079

Pollutant Name : CO2

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	1, 191. 323000	1, 832. 82
0. 05	2, 183, 474. 664245	
10	904. 528000	13, 069. 34
0. 33	11, 821, 587. 589632	
15	713. 425000	13, 069. 34
0. 33	9, 323, 996. 743200	
20	584. 757000	13, 308. 98
0. 34	7, 782, 520. 972131	
25	499. 807000	29, 804. 32
0. 76	14, 896, 406. 766626	
30	442. 773000	116, 665. 54
2. 99	51, 656, 351. 142420	
35	406. 114000	332, 329. 59
8. 51	134, 963, 700. 737716	
40	385. 360000	119, 612. 25
3. 06	46, 093, 777. 816080	
45	378. 139000	161, 527. 36
4. 14	61, 079, 794. 004901	
50	383. 695000	374, 710. 73
9. 60	143, 774, 632. 012570	
55	402. 735000	394, 321. 37
10. 10	158, 807, 016. 141480	
60	437. 570000	650, 671. 04
16. 66	284, 714, 128. 723080	
65	492. 599000	733, 187. 48
18. 77	361, 167, 416. 997525	
70	499. 536000	951, 158. 84
24. 36	475, 138, 080. 799632	
75	510. 506000	0. 00
0. 00	0. 000000	
-----		
Total	1, 763, 402, 885. 111240	3, 905, 269. 00
100. 00		

Pollutant Name : CO

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	2. 291000	1, 832. 82
0. 05	4, 198. 979165	
10	1. 965000	13, 069. 34
0. 33	25, 681. 260960	
15	1. 721000	13, 069. 34
0. 33	22, 492. 341024	
20	1. 538000	13, 308. 98
0. 34	20, 469. 215854	
25	1. 397000	29, 804. 32
0. 76	41, 636. 632246	
30	1. 283000	116, 665. 54
2. 99	149, 681. 887820	
35	1. 191000	332, 329. 59
8. 51	395, 804. 546454	

Speed (mph)	Opening Year	Alt2 Corrod. Rec	Value
40	3.06	1.118000	119,612.25
45	4.14	133,726.498854	161,527.36
50	9.60	1.064000	374,710.73
55	10.10	171,865.109976	394,321.37
60	16.66	1.030000	650,671.04
65	18.77	401,813.473992	733,187.48
70	24.36	1.040000	951,158.84
75	0.00	676,697.885760	0.00
		1.109000	
		813,104.909775	
		1.279000	
		1,216,532.152523	
		1.576000	
		0.000000	
----- Total			3,905,269.00
	100.00	4,459,656.942183	

Pollutant Name : BUTADIENE

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0.001091	1,832.82	
10	1.999601	13,069.34	
15	0.000730	13,069.34	
20	9.540621	13,308.98	
25	0.000512	29,804.32	
30	6.691504	116,665.54	
35	0.000383	332,329.59	
40	5.097340	332,329.59	
45	0.000307	119,612.25	
50	9.149926	161,527.36	
55	0.000259	161,527.36	
60	30.216375	374,710.73	
65	0.000231	374,710.73	
70	76.768136	394,321.37	
75	0.000216	394,321.37	
	25.836247	650,671.04	
	0.000211	650,671.04	
	34.082273	733,187.48	
	0.000219	733,187.48	
	82.061649	951,158.84	
	0.000242	951,158.84	
	95.425771	0.00	
	0.000281	0.00	
	182.838563		
	0.000342		
	250.750116		
	0.000415		
	394.730917		
	0.000533		
	0.000000		
----- Total			3,905,269.00
	100.00	1,205.189040	

Pollutant Name : BENZENE

speed(mph)	Emi ssi on Factor(grams/mi le)	Opening Year_Alt2_corrodi r. ec	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed		
5	0.005613		1,832.82
0.05	10.287591		
10	0.003687		13,069.34
0.33	48.186671		
15	0.002515		13,069.34
0.33	32.869400		
20	0.001854		13,308.98
0.34	24.674854		
25	0.001493		29,804.32
0.76	44.497847		
30	0.001259		116,665.54
2.99	146.881915		
35	0.001116		332,329.59
8.51	370.879827		
40	0.001037		119,612.25
3.06	124.037906		
45	0.001005		161,527.36
4.14	162.334996		
50	0.001033		374,710.73
9.60	387.076180		
55	0.001127		394,321.37
10.10	444.400182		
60	0.001296		650,671.04
16.66	843.269673		
65	0.001561		733,187.48
18.77	1,144.505648		
70	0.001874		951,158.84
24.36	1,782.471661		
75	0.002382		0.00
0.00	0.000000		
-----			
Total			3,905,269.00
	100.00	5,566.374351	

Pollutant Name : ACROLEIN

speed(mph)	Emi ssi on Factor(grams/mi le)	Opening Year_Alt2_corrodi r. ec	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed		
5	0.000232		1,832.82
0.05	0.425213		
10	0.000157		13,069.34
0.33	2.051887		
15	0.000113		13,069.34
0.33	1.476836		
20	0.000085		13,308.98
0.34	1.131264		
25	0.000068		29,804.32
0.76	2.026694		
30	0.000057		116,665.54
2.99	6.649936		
35	0.000051		332,329.59
8.51	16.948809		
40	0.000048		119,612.25
3.06	5.741388		
45	0.000047		161,527.36
4.14	7.591786		
50	0.000049		374,710.73
9.60	18.360826		

Speed (mph)	Opening Year	Alt2 Corroding Factor	Weighted Emissions
55	0.000054		394,321.37
10.10	21.293354		
60	0.000063		650,671.04
16.66	40.992276		
65	0.000077		733,187.48
18.77	56.455436		
70	0.000094		951,158.84
24.36	89.408931		
75	0.000120		0.00
0.00	0.000000		
----- Total			3,905,269.00
100.00	270.554634		

Pollutant Name : ACETALDEHYDE

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0.005372		1,832.82
0.05	9.845882		
10	0.003207		13,069.34
0.33	41.913386		
15	0.001833		13,069.34
0.33	23.956108		
20	0.001229		13,308.98
0.34	16.356740		
25	0.001033		29,804.32
0.76	30.787860		
30	0.000884		116,665.54
2.99	103.132337		
35	0.000773		332,329.59
8.51	256.890776		
40	0.000695		119,612.25
3.06	83.130516		
45	0.000643		161,527.36
4.14	103.862092		
50	0.000618		374,710.73
9.60	231.571229		
55	0.000623		394,321.37
10.10	245.662212		
60	0.000658		650,671.04
16.66	428.141547		
65	0.000730		733,187.48
18.77	535.226857		
70	0.000836		951,158.84
24.36	795.168788		
75	0.001004		0.00
0.00	0.000000		
----- Total			3,905,269.00
100.00	2,905.646330		

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-----  
Idling Emissions (grams) (Currently NOT Available)  
-----  
-----

Opening Year\_Alt2\_corrodi r.ec

-----  
 Evaporative Running Loss Emissions (grams)  
 -----

Pollutant Name : TOG\_Ios  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 112, 113. 295026                      0. 025000                      74, 742. 20

Pollutant Name : FORMALDEHYDE  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 0. 000000                      0. 000000                      74, 742. 20

Pollutant Name : BUTADIENE  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 8. 969064                      0. 000002                      74, 742. 20

Pollutant Name : BENZENE  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 1, 098. 710291                      0. 000245                      74, 742. 20

Pollutant Name : ACROLEIN  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 0. 000000                      0. 000000                      74, 742. 20

Pollutant Name : ACETALDEHYDE  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 0. 000000                      0. 000000                      74, 742. 20

Opening Year\_Alt2\_corroding

Total Emissions

Pollutant Name	Total Emissions (grams)	Total Emissions (Kilograms)
Total Emissions (US Tons)		
TOG	357,731.967847	357.731968
0.394331994		
S02	17,479.229053	17.479229
0.019267552		
Di esel _PM	18,042.986078	18.042986
0.019888988		
PM2.5	69,840.306459	69.840306
0.076985760		
PM10	75,147.527274	75.147527
0.082835969		
NOX	1,032,379.337182	1,032.379337
1.138003421		
FORMALDEHYDE	7,702.034079	7.702034
0.008490039		
CO2	1,763,402,885.111240	1,763,402.885111
1,943.818945975		
CO	4,459,656.942183	4,459.656942
4.915930290		
BUTADIENE	1,214.158104	1.214158
0.001338380		
BENZENE	6,665.084642	6.665085
0.007346998		
ACROLEIN	270.554634	0.270555
0.000298235		
ACETALDEHYDE	2,905.646330	2.905646
0.003202927		

END

Openi ng Year\_Al t2\_surroundi ng.ec

Title : Openi ng Year  
 Versi on : CT-EMFAC 2.6  
 Run Date : 11 October 2012 10:38 AM  
 Scen Year : 2022  
 Season : Annual  
 Temperature : 68F  
 Relati ve Humi di ty : 59%  
 Area : Orange County

Peak User Input :  
 Total VMT : 1240865  
 Volume (vph) :  
 Road Length(mi) :

		VMT Di stri buti on(%) by Speed(mph)									
		5	10	15	20	25	30	35	40	45	50
55	60	65	70	>75							
	.3	3.1	6.9		.1	2.8	7.8	9.5	22.5	35.2	11.5
Offpeak User Input:											

Number of Hours : 791630  
 Total VMT :  
 Volume (vph) :  
 Road Length(mi) :

		VMT Di stri buti on(%) by Speed(mph)									
		5	10	15	20	25	30	35	40	45	50
55	60	65	70	>75							
			6.7					8.2	53.7	31	.4

Runni ng Exhaust Emi ssi ons (grams)

Poll utant Name : TOG\_exh

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.268000	0.00
0.00	0.000000	0.00
10	0.175000	0.00
0.00	0.000000	
15	0.118000	1,240.87
0.06	146.422070	
20	0.087000	34,744.22
1.71	3,022.747140	
25	0.069000	96,787.47
4.76	6,678.335430	
30	0.058000	117,882.18
5.80	6,837.166150	
35	0.051000	344,108.29
16.93	17,549.522535	
40	0.047000	861,889.79
42.41	40,508.820130	
45	0.046000	388,104.78
19.09	17,852.819650	
50	0.047000	6,889.12

Opening Year\_Alt2\_surrounding.ec

55	0.34	323.788405	0.00
60	0.00	0.000000	3,722.60
65	0.18	212.187915	38,466.82
70	1.89	2,615.743420	138,658.90
75	6.82	11,231.370495	0.00
	0.00	0.000000	
-----			
Total	100.00	106,978.923340	2,032,495.00

Pollutant Name : SO2

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0.011000	0.00	0.00
10	0.009000	0.00	0.00
15	0.007000	1,240.87	
20	0.006000	34,744.22	
25	0.005000	96,787.47	
30	0.004000	117,882.18	
35	0.004000	344,108.29	
40	0.004000	861,889.79	
45	0.004000	388,104.78	
50	0.004000	6,889.12	
55	0.004000	0.00	
60	0.004000	3,722.60	
65	0.005000	38,466.82	
70	0.005000	138,658.90	
75	0.005000	0.00	
	0.000000		
-----			
Total	100.00	8,477.104215	2,032,495.00

Pollutant Name : Diesel\_PM

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0.011470	0.00	0.00
0.00	0.000000		

Opening Year\_Alt2\_surrounding.ec

10		0.008843	0.00
0.00		0.000000	
15		0.006919	1,240.87
0.06		8.585545	
20		0.005624	34,744.22
1.71		195.401493	
25		0.004847	96,787.47
4.76		469.128867	
30		0.004292	117,882.18
5.80		505.950295	
35		0.003959	344,108.29
16.93		1,362.324700	
40		0.003774	861,889.79
42.41		3,252.772067	
45		0.003737	388,104.78
19.09		1,450.347544	
50		0.003848	6,889.12
0.34		26.509315	
55		0.004070	0.00
0.00		0.000000	
60		0.004440	3,722.60
0.18		16.528322	
65		0.004884	38,466.82
1.89		187.871924	
70		0.005476	138,658.90
6.82		759.296109	
75		0.006179	0.00
0.00		0.000000	
-----			
Total	100.00	8,234.716182	2,032,495.00

Pollutant Name : PM2.5

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.090000	0.00
0.00	0.000000	
10	0.060000	0.00
0.00	0.000000	
15	0.042000	1,240.87
0.06	52.116330	
20	0.031000	34,744.22
1.71	1,077.070820	
25	0.024000	96,787.47
4.76	2,322.899280	
30	0.020000	117,882.18
5.80	2,357.643500	
35	0.017000	344,108.29
16.93	5,849.840845	
40	0.015000	861,889.79
42.41	12,928.346850	
45	0.014000	388,104.78
19.09	5,433.466850	
50	0.014000	6,889.12
0.34	96.447610	
55	0.015000	0.00
0.00	0.000000	
60	0.017000	3,722.60
0.18	63.284115	
65	0.019000	38,466.82

Opening Year\_Alt2\_surrounding.ec

70	1.89	730.869485	138,658.90
75	6.82	2,773.177900	0.00
	0.00	0.000000	
-----			
Total	100.00	33,685.163585	2,032,495.00

Pollutant Name : PM10

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0.097000	0.000000	0.00
10	0.065000	0.000000	0.00
15	0.045000	55.838925	1,240.87
20	0.033000	1,146.559260	34,744.22
25	0.026000	2,516.474220	96,787.47
30	0.021000	2,475.525675	117,882.18
35	0.018000	6,193.949130	344,108.29
40	0.016000	13,790.236640	861,889.79
45	0.016000	6,209.676400	388,104.78
50	0.016000	110.225840	6,889.12
55	0.016000	0.000000	0.00
60	0.018000	67.006710	3,722.60
65	0.021000	807.803115	38,466.82
70	0.021000	2,911.836795	138,658.90
75	0.022000	0.000000	0.00
-----			
Total	100.00	36,285.132710	2,032,495.00

Pollutant Name : NOX

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0.418000	0.000000	0.00
10	0.340000	0.000000	0.00
15	0.286000	354.887390	1,240.87
20	0.252000	8,755.543440	34,744.22

Opening Year\_Alt2\_surrounding.ec

25		0.232000	96,787.47
4.76		22,454.693040	
30		0.219000	117,882.18
5.80		25,816.196325	
35		0.211000	344,108.29
16.93		72,606.848135	
40		0.208000	861,889.79
42.41		179,273.076320	
45		0.210000	388,104.78
19.09		81,502.002750	
50		0.217000	6,889.12
0.34		1,494.937955	
55		0.231000	0.00
0.00		0.000000	
60		0.253000	3,722.60
0.18		941.816535	
65		0.286000	38,466.82
1.89		11,001.509090	
70		0.328000	138,658.90
6.82		45,480.117560	
75		0.390000	0.00
0.00		0.000000	
-----			
Total	100.00	449,681.628540	2,032,495.00

Pollutant Name : FORMALDEHYDE

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.012466	0.00
0.00	0.000000	
10	0.007577	0.00
0.00	0.000000	
15	0.004496	1,240.87
0.06	5.578929	
20	0.003082	34,744.22
1.71	107.081686	
25	0.002562	96,787.47
4.76	247.969498	
30	0.002183	117,882.18
5.80	257.336788	
35	0.001912	344,108.29
16.93	657.935041	
40	0.001731	861,889.79
42.41	1,491.931226	
45	0.001619	388,104.78
19.09	628.341631	
50	0.001583	6,889.12
0.34	10.905469	
55	0.001627	0.00
0.00	0.000000	
60	0.001759	3,722.60
0.18	6.548045	
65	0.001997	38,466.82
1.89	76.818230	
70	0.002315	138,658.90
6.82	320.995342	
75	0.002821	0.00
0.00	0.000000	
-----		

Opening Year\_Alt2\_surrounding.ec

Total	100.00	3,811.441885	2,032,495.00
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Pollutant Name : CO2

speed(mph)	Emission Factor(grams/mile)	VMT by Speed
VMT-Speed Distribution (%)	Emissions by Speed	
5	1,191.323000	0.00
0.00	0.000000	
10	904.528000	0.00
0.00	0.000000	
15	713.425000	1,240.87
0.06	885,264.112625	
20	584.757000	34,744.22
1.71	20,316,925.854540	
25	499.807000	96,787.47
4.76	48,375,055.018290	
30	442.773000	117,882.18
5.80	52,195,044.271275	
35	406.114000	344,108.29
16.93	139,747,192.054490	
40	385.360000	861,889.79
42.41	332,137,849.474400	
45	378.139000	388,104.78
19.09	146,757,551.513725	
50	383.695000	6,889.12
0.34	2,643,318.979925	
55	402.735000	0.00
0.00	0.000000	
60	437.570000	3,722.60
0.18	1,628,895.894150	
65	492.599000	38,466.82
1.89	18,948,714.602185	
70	499.536000	138,658.90
6.82	69,265,109.772720	
75	510.506000	0.00
0.00	0.000000	
<hr style="border-top: 1px dashed black;"/>		
Total	832,900,921.548325	2,032,495.00

Pollutant Name : CO

speed(mph)	Emission Factor(grams/mile)	VMT by Speed
VMT-Speed Distribution (%)	Emissions by Speed	
5	2.291000	0.00
0.00	0.000000	
10	1.965000	0.00
0.00	0.000000	
15	1.721000	1,240.87
0.06	2,135.528665	
20	1.538000	34,744.22
1.71	53,436.610360	
25	1.397000	96,787.47
4.76	135,212.095590	
30	1.283000	117,882.18
5.80	151,242.830525	
35	1.191000	344,108.29
16.93	409,832.967435	

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40		1.118000	861,889.79
42.41		963,592.785220	
45		1.064000	388,104.78
19.09		412,943.480600	
50		1.030000	6,889.12
0.34		7,095.788450	
55		1.019000	0.00
0.00		0.000000	
60		1.040000	3,722.60
0.18		3,871.498800	
65		1.109000	38,466.82
1.89		42,659.697835	
70		1.279000	138,658.90
6.82		177,344.726705	
75		1.576000	0.00
0.00		0.000000	
-----			
Total	100.00	2,359,368.010185	2,032,495.00

Pollutant Name : BUTADIENE

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0.001091	0.000000	0.00
0.00		0.000000	
10	0.000730	0.000000	0.00
0.00		0.000000	
15	0.000512	0.635323	1,240.87
0.06		0.000383	34,744.22
20	0.000383	13.307036	96,787.47
1.71		0.000307	29.713753
25	0.000307	0.000259	117,882.18
4.76		30.531483	344,108.29
30	0.000259	0.000231	79.489014
5.80		0.000216	861,889.79
35	0.000231	186.168195	388,104.78
16.93		0.000211	81.890108
40	0.000216	0.000219	6,889.12
42.41		1.508716	0.00
45	0.000211	0.000242	0.000000
19.09		0.000281	3,722.60
50	0.000219	1.046049	38,466.82
0.34		0.000342	13.155651
55	0.000242	0.000415	138,658.90
0.00		57.543441	0.00
60	0.000281	0.000533	0.000000
0.18		0.000000	
65	0.000342		
1.89			
70	0.000415		
6.82			
75	0.000533		
0.00			
-----			
Total	100.00	494.988769	2,032,495.00

Pollutant Name : BENZENE

speed(mph)		Opening Year	Alt2_surrounding.ec	Factor(grams/mi le)	Emi ssi on	VMT by Speed
VMT-Speed Di stri buti on (%)		Emi ssi ons by Speed				
5	0.00	0.005613		0.000000	0.00	
10	0.00	0.003687		0.000000	0.00	
15	0.06	0.002515		3.120775	1,240.87	
20	1.71	0.001854		64.415784	34,744.22	
25	4.76	0.001493		144.503693	96,787.47	
30	5.80	0.001259		148.413658	117,882.18	
35	16.93	0.001116		384.024846	344,108.29	
40	42.41	0.001037		893.779712	861,889.79	
45	19.09	0.001005		390.045299	388,104.78	
50	0.34	0.001033		7.116456	6,889.12	
55	0.00	0.001127		0.000000	0.00	
60	0.18	0.001296		4.824483	3,722.60	
65	1.89	0.001561		60.046698	38,466.82	
70	6.82	0.001874		259.846769	138,658.90	
75	0.00	0.002382		0.000000	0.00	
-----						
Total				2,360.138174	2,032,495.00	
	100.00					

Pollutant Name : ACROLEIN

speed(mph)		Opening Year	Alt2_surrounding.ec	Factor(grams/mi le)	Emi ssi on	VMT by Speed
VMT-Speed Di stri buti on (%)		Emi ssi ons by Speed				
5	0.00	0.000232		0.000000	0.00	
10	0.00	0.000157		0.000000	0.00	
15	0.06	0.000113		0.140218	1,240.87	
20	1.71	0.000085		2.953259	34,744.22	
25	4.76	0.000068		6.581548	96,787.47	
30	5.80	0.000057		6.719284	117,882.18	
35	16.93	0.000051		17.549523	344,108.29	
40	42.41	0.000048		41.370710	861,889.79	
45	19.09	0.000047		18.240924	388,104.78	
50	0.34	0.000049		0.337567	6,889.12	

Opening Year\_Alt2\_surrounding.ec

Speed (mph)	EMISSION FACTOR (grams/mile)	EMISSIONS (grams)	VMT (miles)
55	0.000054	0.00	0.00
0.00	0.000000		
60	0.000063	3,722.60	3,722.60
0.18	0.234523		
65	0.000077	38,466.82	38,466.82
1.89	2.961945		
70	0.000094	138,658.90	138,658.90
6.82	13.033936		
75	0.000120	0.00	0.00
0.00	0.000000		
<b>Total</b>			<b>2,032,495.00</b>
100.00	110.123436		

Pollutant Name : ACETALDEHYDE

speed(mph)	EMISSION FACTOR(grams/mile)	EMISSIONS by Speed	VMT by Speed
VMT-Speed Distribution (%)			
5	0.005372	0.00	0.00
0.00	0.000000		
10	0.003207	0.00	0.00
0.00	0.000000		
15	0.001833	1,240.87	1,240.87
0.06	2.274506		
20	0.001229	34,744.22	34,744.22
1.71	42.700646		
25	0.001033	96,787.47	96,787.47
4.76	99.981457		
30	0.000884	117,882.18	117,882.18
5.80	104.207843		
35	0.000773	344,108.29	344,108.29
16.93	265.995704		
40	0.000695	861,889.79	861,889.79
42.41	599.013404		
45	0.000643	388,104.78	388,104.78
19.09	249.551370		
50	0.000618	6,889.12	6,889.12
0.34	4.257473		
55	0.000623	0.00	0.00
0.00	0.000000		
60	0.000658	3,722.60	3,722.60
0.18	2.449468		
65	0.000730	38,466.82	38,466.82
1.89	28.080775		
70	0.000836	138,658.90	138,658.90
6.82	115.918836		
75	0.001004	0.00	0.00
0.00	0.000000		
<b>Total</b>			<b>2,032,495.00</b>
100.00	1,514.431482		

Idling Emissions (grams) (Currently NOT Available)

Opening Year\_Air\_t2\_surrounding.ec

-----  
Evaporative Running Loss Emissions (grams)  
-----

Pollutant Name : TOG\_Ios  
Emission Factor(grams/min)      total running time(hrs)  
Emissions  
78,595.146928                      0.025000                      52,396.76

Pollutant Name : FORMALDEHYDE  
Emission Factor(grams/min)      total running time(hrs)  
Emissions  
0.000000                      0.000000                      52,396.76

Pollutant Name : BUTADIENE  
Emission Factor(grams/min)      total running time(hrs)  
Emissions  
6.287612                      0.000002                      52,396.76

Pollutant Name : BENZENE  
Emission Factor(grams/min)      total running time(hrs)  
Emissions  
770.232440                      0.000245                      52,396.76

Pollutant Name : ACROLEIN  
Emission Factor(grams/min)      total running time(hrs)  
Emissions  
0.000000                      0.000000                      52,396.76

Pollutant Name : ACETALDEHYDE  
Emission Factor(grams/min)      total running time(hrs)  
Emissions  
0.000000                      0.000000                      52,396.76  
-----

Opening Year\_Alt2\_surrounding.ec

Total Emissions

Pollutant Name	Total Emissions (grams)	Total Emissions (Kilograms)
Total Emissions (US Tons)		
TOG	185,574.070268	185.574070
0.204560397		
S02	8,477.104215	8.477104
0.009344408		
Di esel _PM	8,234.716182	8.234716
0.009077221		
PM2.5	33,685.163585	33.685164
0.037131537		
PM10	36,285.132710	36.285133
0.039997512		
NOX	449,681.628540	449.681629
0.495689145		
FORMALDEHYDE	3,811.441885	3.811442
0.004201396		
C02	832,900.921548325	832.900.921548
918.116106702		
CO	2,359,368.010185	2,359.368010
2.600758044		
BUTADIENE	501.276381	0.501276
0.000552563		
BENZENE	3,130.370614	3.130371
0.003450643		
ACROLEIN	110.123436	0.110123
0.000121390		
ACETALDEHYDE	1,514.431482	1.514431
0.001669375		

END

Opening Year\_Alt3\_corridor.ec

Title : Opening Year  
 Version : CT-EMFAC 2.6  
 Run Date : 11 October 2012 10:41 AM  
 Scen Year : 2022  
 Season : Annual  
 Temperature : 68F  
 Relative Humidity : 59%  
 Area : Orange County

Peak User Input :  
 Total VMT : 1837635  
 Volume (vph) :  
 Road Length(mi) :

		VMT Distribution(%) by Speed(mph)												
		5	10	15	20	25	30	35	40	45	50			
55	60	65	70	>75										
18.7	15.1	14	3.6		.1	.6	.6	.5	1.2	5.3	12.8	5.6	8.7	13.2

Offpeak User Input:  
 Total VMT : 2074713  
 Volume (vph) :  
 Road Length(mi) :

		VMT Distribution(%) by Speed(mph)											
		5	10	15	20	25	30	35	40	45	50		
55	60	65	70	>75									
5.1	15.2	26.6	42.6		.1	.1	.3	.3	.5	5.5	.2	.1	3.4

Runni ng Exhaust Emi ssi ons (grams)

Poll utant Name : TOG\_exh

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed	Di stri buti on (%)	Emi ssi ons by Speed
5	0.05	1,837.64
10	0.33	13,100.52
15	0.33	13,100.52
20	0.39	15,412.31
25	0.72	28,275.76
30	2.75	107,768.22
35	8.93	349,326.50
40	2.74	107,056.99
45	4.14	161,948.96
50		313,108.06

Opening Year\_Alt3\_corridor.ec

Speed (mph)	EMISSION FACTOR (grams/mile)	EMISSIONS BY SPEED
8.00	14,716.078914	
55	0.050000	449,448.11
11.49	22,472.405400	
60	0.057000	592,839.26
15.15	33,791.837877	
65	0.068000	809,142.56
20.68	55,021.693944	
70	0.081000	949,982.60
24.28	76,948.590438	
75	0.101000	0.00
0.00	0.000000	
<hr/>		
Total	247,120.983096	3,912,348.00
100.00		

Pollutant Name : SO2

speed(mph)	EMISSION FACTOR(grams/mile)	VMT by Speed
VMT-Speed Distribution (%)	EMISSIONS BY SPEED	
5	0.011000	1,837.64
0.05	20.213985	
10	0.009000	13,100.52
0.33	117.904707	
15	0.007000	13,100.52
0.33	91.703661	
20	0.006000	15,412.31
0.39	92.473884	
25	0.005000	28,275.76
0.72	141.378795	
30	0.004000	107,768.22
2.75	431.072880	
35	0.004000	349,326.50
8.93	1,397.305980	
40	0.004000	107,056.99
2.74	428.227944	
45	0.004000	161,948.96
4.14	647.795832	
50	0.004000	313,108.06
8.00	1,252.432248	
55	0.004000	449,448.11
11.49	1,797.792432	
60	0.004000	592,839.26
15.15	2,371.357044	
65	0.005000	809,142.56
20.68	4,045.712790	
70	0.005000	949,982.60
24.28	4,749.912990	
75	0.005000	0.00
0.00	0.000000	
<hr/>		
Total	17,585.285172	3,912,348.00
100.00		

Pollutant Name : Diesel\_PM

speed(mph)	EMISSION FACTOR(grams/mile)	VMT by Speed
VMT-Speed Distribution (%)	EMISSIONS BY SPEED	
5	0.011470	1,837.64
0.05	21.077673	

Opening Year\_Alt3\_corridor.ec

10		0.008843	13,100.52
0.33		115.847925	
15		0.006919	13,100.52
0.33		90.642519	
20		0.005624	15,412.31
0.39		86.678854	
25		0.004847	28,275.76
0.72		137.052604	
30		0.004292	107,768.22
2.75		462.541200	
35		0.003959	349,326.50
8.93		1,382.983594	
40		0.003774	107,056.99
2.74		404.033065	
45		0.003737	161,948.96
4.14		605.203256	
50		0.003848	313,108.06
8.00		1,204.839823	
55		0.004070	449,448.11
11.49		1,829.253800	
60		0.004440	592,839.26
15.15		2,632.206319	
65		0.004884	809,142.56
20.68		3,951.852253	
70		0.005476	949,982.60
24.28		5,202.104707	
75		0.006179	0.00
0.00		0.000000	
-----			
Total	100.00	18,126.317591	3,912,348.00

Pollutant Name : PM2.5

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0.090000	1,837.64	
0.05	165.387150		
10	0.060000	13,100.52	
0.33	786.031380		
15	0.042000	13,100.52	
0.33	550.221966		
20	0.031000	15,412.31	
0.39	477.781734		
25	0.024000	28,275.76	
0.72	678.618216		
30	0.020000	107,768.22	
2.75	2,155.364400		
35	0.017000	349,326.50	
8.93	5,938.550415		
40	0.015000	107,056.99	
2.74	1,605.854790		
45	0.014000	161,948.96	
4.14	2,267.285412		
50	0.014000	313,108.06	
8.00	4,383.512868		
55	0.015000	449,448.11	
11.49	6,741.721620		
60	0.017000	592,839.26	
15.15	10,078.267437		
65	0.019000	809,142.56	

Opening Year\_Alt3\_corridor.ec

20.68	15,373.708602	949,982.60
70	0.020000	
24.28	18,999.651960	0.00
75	0.020000	
0.00	0.000000	
-----		
Total	70,201.957950	3,912,348.00
100.00		

Pollutant Name : PM10

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.097000	1,837.64
0.05	178.250595	
10	0.065000	13,100.52
0.33	851.533995	
15	0.045000	13,100.52
0.33	589.523535	
20	0.033000	15,412.31
0.39	508.606362	
25	0.026000	28,275.76
0.72	735.169734	
30	0.021000	107,768.22
2.75	2,263.132620	
35	0.018000	349,326.50
8.93	6,287.876910	
40	0.016000	107,056.99
2.74	1,712.911776	
45	0.016000	161,948.96
4.14	2,591.183328	
50	0.016000	313,108.06
8.00	5,009.728992	
55	0.016000	449,448.11
11.49	7,191.169728	
60	0.018000	592,839.26
15.15	10,671.106698	
65	0.021000	809,142.56
20.68	16,991.993718	
70	0.021000	949,982.60
24.28	19,949.634558	
75	0.022000	0.00
0.00	0.000000	
-----		
Total	75,531.822549	3,912,348.00
100.00		

Pollutant Name : NOX

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.418000	1,837.64
0.05	768.131430	
10	0.340000	13,100.52
0.33	4,454.177820	
15	0.286000	13,100.52
0.33	3,746.749578	
20	0.252000	15,412.31
0.39	3,883.903128	

Opening Year_Alt3_corridor.ec		
25		0.232000
0.72		6,559.976088
30		0.219000
2.75		23,601.240180
35		0.211000
8.93		73,707.890445
40		0.208000
2.74		22,267.853088
45		0.210000
4.14		34,009.281180
50		0.217000
8.00		67,944.449454
55		0.231000
11.49		103,822.512948
60		0.253000
15.15		149,988.333033
65		0.286000
20.68		231,414.771588
70		0.328000
24.28		311,594.292144
75		0.390000
0.00		0.000000
-----		
Total	100.00	1,037,763.562104
		3,912,348.00

Pollutant Name : FORMALDEHYDE

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.012466	1,837.64
0.05	22.907958	
10	0.007577	13,100.52
0.33	99.262663	
15	0.004496	13,100.52
0.33	58.899951	
20	0.003082	15,412.31
0.39	47.500752	
25	0.002562	28,275.76
0.72	72.442495	
30	0.002183	107,768.22
2.75	235.258024	
35	0.001912	349,326.50
8.93	667.912258	
40	0.001731	107,056.99
2.74	185.315643	
45	0.001619	161,948.96
4.14	262.195363	
50	0.001583	313,108.06
8.00	495.650062	
55	0.001627	449,448.11
11.49	731.252072	
60	0.001759	592,839.26
15.15	1,042.804260	
65	0.001997	809,142.56
20.68	1,615.857688	
70	0.002315	949,982.60
24.28	2,199.209714	
75	0.002821	0.00
0.00	0.000000	
-----		

Total 100.00 Opening Year\_Al t3\_corridor.ec 7, 736. 468904 3, 912, 348. 00

Pollutant Name : CO2

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	1, 191. 323000	1, 837. 64
0. 05	2, 189, 216. 841105	
10	904. 528000	13, 100. 52
0. 33	11, 849, 789. 868144	
15	713. 425000	13, 100. 52
0. 33	9, 346, 240. 621275	
20	584. 757000	15, 412. 31
0. 39	9, 012, 458. 497698	
25	499. 807000	28, 275. 76
0. 72	14, 132, 422. 278513	
30	442. 773000	107, 768. 22
2. 75	47, 716, 858. 074060	
35	406. 114000	349, 326. 50
8. 93	141, 866, 380. 190430	
40	385. 360000	107, 056. 99
2. 74	41, 255, 480. 124960	
45	378. 139000	161, 948. 96
4. 14	61, 239, 217. 029162	
50	383. 695000	313, 108. 06
8. 00	120, 137, 997. 849090	
55	402. 735000	449, 448. 11
11. 49	181, 008, 483. 775380	
60	437. 570000	592, 839. 26
15. 15	259, 408, 675. 435770	
65	492. 599000	809, 142. 56
20. 68	398, 582, 814. 928242	
70	499. 536000	949, 982. 60
24. 28	474, 550, 507. 074528	
75	510. 506000	0. 00
0. 00	0. 000000	
-----		
Total	100.00	1, 772, 296, 542. 588360
		3, 912, 348. 00

Pollutant Name : CO

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	2. 291000	1, 837. 64
0. 05	4, 210. 021785	
10	1. 965000	13, 100. 52
0. 33	25, 742. 527695	
15	1. 721000	13, 100. 52
0. 33	22, 546. 000083	
20	1. 538000	15, 412. 31
0. 39	23, 704. 138932	
25	1. 397000	28, 275. 76
0. 72	39, 501. 235323	
30	1. 283000	107, 768. 22
2. 75	138, 266. 626260	
35	1. 191000	349, 326. 50
8. 93	416, 047. 855545	

			Opening Year_Alt3_corridor.ec	
40			1.118000	107,056.99
2.74			119,689.710348	
45			1.064000	161,948.96
4.14			172,313.691312	
50			1.030000	313,108.06
8.00			322,501.303860	
55			1.019000	449,448.11
11.49			457,987.622052	
60			1.040000	592,839.26
15.15			616,552.831440	
65			1.109000	809,142.56
20.68			897,339.096822	
70			1.279000	949,982.60
24.28			1,215,027.742842	
75			1.576000	0.00
0.00			0.000000	
-----				
Total	100.00		4,471,430.404299	3,912,348.00

Pollutant Name : BUTADIENE

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0.001091		1,837.64
0.05	2.004860		
10	0.000730		13,100.52
0.33	9.563382		
15	0.000512		13,100.52
0.33	6.707468		
20	0.000383		15,412.31
0.39	5.902916		
25	0.000307		28,275.76
0.72	8.680658		
30	0.000259		107,768.22
2.75	27.911969		
35	0.000231		349,326.50
8.93	80.694420		
40	0.000216		107,056.99
2.74	23.124309		
45	0.000211		161,948.96
4.14	34.171230		
50	0.000219		313,108.06
8.00	68.570666		
55	0.000242		449,448.11
11.49	108.766442		
60	0.000281		592,839.26
15.15	166.587832		
65	0.000342		809,142.56
20.68	276.726755		
70	0.000415		949,982.60
24.28	394.242778		
75	0.000533		0.00
0.00	0.000000		
-----			
Total	100.00	1,213.655685	3,912,348.00

Pollutant Name : BENZENE

Opening Year\_Alt3\_corridor.ec

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0.005613		1,837.64
0.05	10.314645		
10	0.003687		13,100.52
0.33	48.301628		
15	0.002515		13,100.52
0.33	32.947815		
20	0.001854		15,412.31
0.39	28.574430		
25	0.001493		28,275.76
0.72	42.215708		
30	0.001259		107,768.22
2.75	135.680189		
35	0.001116		349,326.50
8.93	389.848368		
40	0.001037		107,056.99
2.74	111.018094		
45	0.001005		161,948.96
4.14	162.758703		
50	0.001033		313,108.06
8.00	323.440628		
55	0.001127		449,448.11
11.49	506.528018		
60	0.001296		592,839.26
15.15	768.319682		
65	0.001561		809,142.56
20.68	1,263.071533		
70	0.001874		949,982.60
24.28	1,780.267389		
75	0.002382		0.00
0.00	0.000000		
-----			
Total			3,912,348.00
	100.00	5,603.286832	

Pollutant Name : ACROLEIN

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0.000232		1,837.64
0.05	0.426331		
10	0.000157		13,100.52
0.33	2.056782		
15	0.000113		13,100.52
0.33	1.480359		
20	0.000085		15,412.31
0.39	1.310047		
25	0.000068		28,275.76
0.72	1.922752		
30	0.000057		107,768.22
2.75	6.142789		
35	0.000051		349,326.50
8.93	17.815651		
40	0.000048		107,056.99
2.74	5.138735		
45	0.000047		161,948.96
4.14	7.611601		
50	0.000049		313,108.06
8.00	15.342295		

Speed (mph)	Opening Year	Alt3 Corridor.ec	Value
55	0.000054		449,448.11
11.49	24.270198		
60	0.000063		592,839.26
15.15	37.348873		
65	0.000077		809,142.56
20.68	62.303977		
70	0.000094		949,982.60
24.28	89.298364		
75	0.000120		0.00
0.00	0.000000		
----- Total			3,912,348.00
100.00	272.468754		

Pollutant Name : ACETALDEHYDE

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0.005372		1,837.64
0.05	9.871775		
10	0.003207		13,100.52
0.33	42.013377		
15	0.001833		13,100.52
0.33	24.013259		
20	0.001229		15,412.31
0.39	18.941734		
25	0.001033		28,275.76
0.72	29.208859		
30	0.000884		107,768.22
2.75	95.267106		
35	0.000773		349,326.50
8.93	270.029381		
40	0.000695		107,056.99
2.74	74.404605		
45	0.000643		161,948.96
4.14	104.133180		
50	0.000618		313,108.06
8.00	193.500782		
55	0.000623		449,448.11
11.49	280.006171		
60	0.000658		592,839.26
15.15	390.088234		
65	0.000730		809,142.56
20.68	590.674067		
70	0.000836		949,982.60
24.28	794.185452		
75	0.001004		0.00
0.00	0.000000		
----- Total			3,912,348.00
100.00	2,916.337983		

-----  
Idling Emi ssi ons (grams) (Currentl y NOT Avai l abl e)  
-----

-----  
 Evaporative Running Loss Emissions (grams)  
 -----

Pollutant Name : TOG\_Ios  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 111,952.561999                      0.025000                      74,635.04

Pollutant Name : FORMALDEHYDE  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 0.000000                              0.000000                      74,635.04

Pollutant Name : BUTADIENE  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 8.956205                              0.000002                      74,635.04

Pollutant Name : BENZENE  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 1,097.135108                      0.000245                      74,635.04

Pollutant Name : ACROLEIN  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 0.000000                              0.000000                      74,635.04

Pollutant Name : ACETALDEHYDE  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 0.000000                              0.000000                      74,635.04

Opening Year\_Alt3\_corridor.ec

Total Emissions

Pollutant Name	Total Emissions (grams)	Total Emissions (Kilograms)
Total Emissions (US Tons)		
TOG	359,073.545095	359.073545
0.395810830		
S02	17,585.285172	17.585285
0.019384459		
Di esel _PM	18,126.317591	18.126318
0.019980845		
PM2.5	70,201.957950	70.201958
0.077384412		
PM10	75,531.822549	75.531823
0.083259582		
NOX	1,037,763.562104	1,037.763562
1.143938513		
FORMALDEHYDE	7,736.468904	7.736469
0.008527997		
CO2	1,772,296,542.588360	1,772,296.542588
1,953.622525207		
CO	4,471,430.404299	4,471.430404
4.928908311		
BUTADIENE	1,222.611890	1.222612
0.001347699		
BENZENE	6,700.421939	6.700422
0.007385951		
ACROLEIN	272.468754	0.272469
0.000300345		
ACETALDEHYDE	2,916.337983	2.916338
0.003214712		

END

Opening Year\_Alt3\_surrounding.ec

Title : Opening Year  
 Version : CT-EMFAC 2.6  
 Run Date : 11 October 2012 10:47 AM  
 Scen Year : 2022  
 Season : Annual  
 Temperature : 68F  
 Relative Humidity : 59%  
 Area : Orange County

Peak User Input :

Number of Hours : Total VMT : Volume (vph) : Road Length(mi)  
 1238758

VMT Distribution(%) by Speed(mph)

Speed (mph)	5	10	15	20	25	30	35	40	45	50
55										
60										
65										
70										
>75										
%										
Offpeak User Input:	.3	2.6	7.3							

Number of Hours : Total VMT : Volume (vph) : Road Length(mi)  
 790619

VMT Distribution(%) by Speed(mph)

Speed (mph)	5	10	15	20	25	30	35	40	45	50
55										
60										
65										
70										
>75										
%										
Offpeak User Input:							8.2	53.6	31	.5

Running Exhaust Emissions (grams)

Pollutant Name : TOG\_exh

speed(mph)	Emission Factor(grams/mile)	VMT by Speed
VMT-Speed Distribution (%)	Emissions by Speed	
5	0.268000	0.00
0.00	0.000000	0.00
10	0.175000	0.00
0.00	0.000000	
15	0.118000	1,238.76
0.06	146.173444	
20	0.087000	32,207.71
1.59	2,802.070596	
25	0.069000	99,100.64
4.88	6,837.944160	
30	0.058000	116,443.25
5.74	6,753.708616	
35	0.051000	343,551.31
16.93	17,521.116708	
40	0.047000	857,337.08
42.25	40,294.842948	
45	0.046000	392,504.09
19.34	18,055.188232	
50	0.047000	7,669.37

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55	0.38	360.460343	0.00
60	0.00	0.000000	3,716.27
65	0.18	211.827618	32,207.71
70	1.59	2,190.124144	143,400.81
75	7.07	11,615.465367	0.00
	0.00	0.000000	
----- Total			2,029,377.00
	100.00	106,788.922176	

Pollutant Name : SO2

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0.011000	0.00	0.00
10	0.009000	0.00	0.00
15	0.007000	1,238.76	32,207.71
20	0.006000	8.671306	99,100.64
25	0.005000	193.246248	116,443.25
30	0.004000	495.503200	343,551.31
35	0.004000	465.773008	857,337.08
40	0.004000	3,429.348336	392,504.09
45	0.004000	1,570.016368	7,669.37
50	0.004000	30.677476	0.00
55	0.004000	0.000000	3,716.27
60	0.004000	14.865096	32,207.71
65	0.005000	161.038540	143,400.81
70	0.005000	717.004035	0.00
75	0.005000	0.000000	
----- Total			2,029,377.00
	100.00	8,460.348845	

Pollutant Name : Diesel\_PM

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0.011470	0.00	0.00
10	0.000000		

Opening Year\_Alt3\_surrounding.ec

10		0.008843	0.00
0.00		0.000000	
15		0.006919	1,238.76
0.06		8.570967	
20		0.005624	32,207.71
1.59		181.136150	
25		0.004847	99,100.64
4.88		480.340802	
30		0.004292	116,443.25
5.74		499.774438	
35		0.003959	343,551.31
16.93		1,360.119628	
40		0.003774	857,337.08
42.25		3,235.590155	
45		0.003737	392,504.09
19.34		1,466.787792	
50		0.003848	7,669.37
0.38		29.511732	
55		0.004070	0.00
0.00		0.000000	
60		0.004440	3,716.27
0.18		16.500257	
65		0.004884	32,207.71
1.59		157.302446	
70		0.005476	143,400.81
7.07		785.262819	
75		0.006179	0.00
0.00		0.000000	
-----			
Total	100.00	8,220.897185	2,029,377.00

Pollutant Name : PM2.5

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.090000	0.00
0.00	0.000000	
10	0.060000	0.00
0.00	0.000000	
15	0.042000	1,238.76
0.06	52.027836	
20	0.031000	32,207.71
1.59	998.438948	
25	0.024000	99,100.64
4.88	2,378.415360	
30	0.020000	116,443.25
5.74	2,328.865040	
35	0.017000	343,551.31
16.93	5,840.372236	
40	0.015000	857,337.08
42.25	12,860.056260	
45	0.014000	392,504.09
19.34	5,495.057288	
50	0.014000	7,669.37
0.38	107.371166	
55	0.015000	0.00
0.00	0.000000	
60	0.017000	3,716.27
0.18	63.176658	
65	0.019000	32,207.71

Opening Year\_Alt3\_surrounding.ec

70	1.59	611.946452	143,400.81
75	7.07	2,868.016140	0.00
	0.00	0.000000	
-----			
Total	100.00	33,603.743384	2,029,377.00

Pollutant Name : PM10

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.097000	0.00
0.00	0.000000	
10	0.065000	0.00
0.00	0.000000	
15	0.045000	1,238.76
0.06	55.744110	
20	0.033000	32,207.71
1.59	1,062.854364	
25	0.026000	99,100.64
4.88	2,576.616640	
30	0.021000	116,443.25
5.74	2,445.308292	
35	0.018000	343,551.31
16.93	6,183.923544	
40	0.016000	857,337.08
42.25	13,717.393344	
45	0.016000	392,504.09
19.34	6,280.065472	
50	0.016000	7,669.37
0.38	122.709904	
55	0.016000	0.00
0.00	0.000000	
60	0.018000	3,716.27
0.18	66.892932	
65	0.021000	32,207.71
1.59	676.361868	
70	0.021000	143,400.81
7.07	3,011.416947	
75	0.022000	0.00
0.00	0.000000	
-----		
Total	100.00	36,199.287417
		2,029,377.00

Pollutant Name : NOX

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.418000	0.00
0.00	0.000000	
10	0.340000	0.00
0.00	0.000000	
15	0.286000	1,238.76
0.06	354.284788	
20	0.252000	32,207.71
1.59	8,116.342416	

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25		0.232000	99,100.64
4.88		22,991.348480	
30		0.219000	116,443.25
5.74		25,501.072188	
35		0.211000	343,551.31
16.93		72,489.325988	
40		0.208000	857,337.08
42.25		178,326.113472	
45		0.210000	392,504.09
19.34		82,425.859320	
50		0.217000	7,669.37
0.38		1,664.253073	
55		0.231000	0.00
0.00		0.000000	
60		0.253000	3,716.27
0.18		940.217322	
65		0.286000	32,207.71
1.59		9,211.404488	
70		0.328000	143,400.81
7.07		47,035.464696	
75		0.390000	0.00
0.00		0.000000	
-----			
Total	100.00	449,055.686231	2,029,377.00

Pollutant Name : FORMALDEHYDE

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.012466	0.00
0.00	0.000000	
10	0.007577	0.00
0.00	0.000000	
15	0.004496	1,238.76
0.06	5.569456	
20	0.003082	32,207.71
1.59	99.264156	
25	0.002562	99,100.64
4.88	253.895840	
30	0.002183	116,443.25
5.74	254.195619	
35	0.001912	343,551.31
16.93	656.870101	
40	0.001731	857,337.08
42.25	1,484.050492	
45	0.001619	392,504.09
19.34	635.464125	
50	0.001583	7,669.37
0.38	12.140611	
55	0.001627	0.00
0.00	0.000000	
60	0.001759	3,716.27
0.18	6.536926	
65	0.001997	32,207.71
1.59	64.318793	
70	0.002315	143,400.81
7.07	331.972868	
75	0.002821	0.00
0.00	0.000000	
-----		

Total 100.00 Opening Year\_Alt3\_surrounding.ec 3,804.278987 2,029,377.00

Pollutant Name : CO2

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	1,191.323000		0.00
0.00	0.000000		
10	904.528000		0.00
0.00	0.000000		
15	713.425000		1,238.76
0.06	883,760.926150		
20	584.757000		32,207.71
1.59	18,833,682.706956		
25	499.807000		99,100.64
4.88	49,531,193.576480		
30	442.773000		116,443.25
5.74	51,557,928.017796		
35	406.114000		343,551.31
16.93	139,520,995.897112		
40	385.360000		857,337.08
42.25	330,383,418.690240		
45	378.139000		392,504.09
19.34	148,421,104.844788		
50	383.695000		7,669.37
0.38	2,942,698.538455		
55	402.735000		0.00
0.00	0.000000		
60	437.570000		3,716.27
0.18	1,626,130.014180		
65	492.599000		32,207.71
1.59	15,865,484.753092		
70	499.536000		143,400.81
7.07	71,633,865.525552		
75	510.506000		0.00
0.00	0.000000		
-----			
Total	100.00	831,200,263.490801	2,029,377.00

Pollutant Name : CO

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	2.291000		0.00
0.00	0.000000		
10	1.965000		0.00
0.00	0.000000		
15	1.721000		1,238.76
0.06	2,131.902518		
20	1.538000		32,207.71
1.59	49,535.454904		
25	1.397000		99,100.64
4.88	138,443.594080		
30	1.283000		116,443.25
5.74	149,396.692316		
35	1.191000		343,551.31
16.93	409,169.607828		

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40		1.118000	857,337.08
42.25		958,502.859912	
45		1.064000	392,504.09
19.34		417,624.353888	
50		1.030000	7,669.37
0.38		7,899.450070	
55		1.019000	0.00
0.00		0.000000	
60		1.040000	3,716.27
0.18		3,864.924960	
65		1.109000	32,207.71
1.59		35,718.348172	
70		1.279000	143,400.81
7.07		183,409.632153	
75		1.576000	0.00
0.00		0.000000	
-----			
Total	100.00	2,355,696.820801	2,029,377.00

Pollutant Name : BUTADIENE

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0.001091	0.00	0.00
0.00	0.000000		
10	0.000730	0.00	0.00
0.00	0.000000		
15	0.000512	1,238.76	
0.06	0.634244		
20	0.000383	32,207.71	
1.59	12.335552		
25	0.000307	99,100.64	
4.88	30.423896		
30	0.000259	116,443.25	
5.74	30.158802		
35	0.000231	343,551.31	
16.93	79.360352		
40	0.000216	857,337.08	
42.25	185.184810		
45	0.000211	392,504.09	
19.34	82.818363		
50	0.000219	7,669.37	
0.38	1.679592		
55	0.000242	0.00	
0.00	0.000000		
60	0.000281	3,716.27	
0.18	1.044273		
65	0.000342	32,207.71	
1.59	11.015036		
70	0.000415	143,400.81	
7.07	59.511335		
75	0.000533	0.00	
0.00	0.000000		
-----			
Total	100.00	494.166257	2,029,377.00

Pollutant Name : BENZENE

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speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0.005613		0.00
0.00	0.000000		
10	0.003687		0.00
0.00	0.000000		
15	0.002515		1,238.76
0.06	3.115476		
20	0.001854		32,207.71
1.59	59.713091		
25	0.001493		99,100.64
4.88	147.957256		
30	0.001259		116,443.25
5.74	146.602054		
35	0.001116		343,551.31
16.93	383.403260		
40	0.001037		857,337.08
42.25	889.058556		
45	0.001005		392,504.09
19.34	394.466612		
50	0.001033		7,669.37
0.38	7.922458		
55	0.001127		0.00
0.00	0.000000		
60	0.001296		3,716.27
0.18	4.816291		
65	0.001561		32,207.71
1.59	50.276232		
70	0.001874		143,400.81
7.07	268.733112		
75	0.002382		0.00
0.00	0.000000		
-----			
Total			2,029,377.00
	100.00	2,356.064399	

Pollutant Name : ACROLEIN

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0.000232		0.00
0.00	0.000000		
10	0.000157		0.00
0.00	0.000000		
15	0.000113		1,238.76
0.06	0.139980		
20	0.000085		32,207.71
1.59	2.737655		
25	0.000068		99,100.64
4.88	6.738844		
30	0.000057		116,443.25
5.74	6.637265		
35	0.000051		343,551.31
16.93	17.521117		
40	0.000048		857,337.08
42.25	41.152180		
45	0.000047		392,504.09
19.34	18.447692		
50	0.000049		7,669.37
0.38	0.375799		

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55		0.000054	0.00
0.00		0.000000	
60		0.000063	3,716.27
0.18		0.234125	
65		0.000077	32,207.71
1.59		2.479994	
70		0.000094	143,400.81
7.07		13.479676	
75		0.000120	0.00
0.00		0.000000	
<hr/>			
Total	100.00	109.944326	2,029,377.00

Pollutant Name : ACETALDEHYDE

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0.005372	0.00	0.00
0.00	0.000000		
10	0.003207	0.00	0.00
0.00	0.000000		
15	0.001833	1,238.76	
0.06	2.270643		
20	0.001229	32,207.71	
1.59	39.583273		
25	0.001033	99,100.64	
4.88	102.370961		
30	0.000884	116,443.25	
5.74	102.935835		
35	0.000773	343,551.31	
16.93	265.565161		
40	0.000695	857,337.08	
42.25	595.849273		
45	0.000643	392,504.09	
19.34	252.380131		
50	0.000618	7,669.37	
0.38	4.739670		
55	0.000623	0.00	0.00
0.00	0.000000		
60	0.000658	3,716.27	
0.18	2.445308		
65	0.000730	32,207.71	
1.59	23.511627		
70	0.000836	143,400.81	
7.07	119.883075		
75	0.001004	0.00	0.00
0.00	0.000000		
<hr/>			
Total	100.00	1,511.534958	2,029,377.00

Idling Emi ssi ons (grams) (Currentl y NOT Avai labl e)

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-----  
 Evaporative Running Loss Emissions (grams)  
 -----

Pollutant Name : TOG\_Ios  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 78,404.009925                      0.025000                      52,269.34

Pollutant Name : FORMALDEHYDE  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 0.000000                              0.000000                      52,269.34

Pollutant Name : BUTADIENE  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 6.272321                                0.000002                      52,269.34

Pollutant Name : BENZENE  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 768.359297                              0.000245                      52,269.34

Pollutant Name : ACROLEIN  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 0.000000                                0.000000                      52,269.34

Pollutant Name : ACETALDEHYDE  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 0.000000                                0.000000                      52,269.34

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Total Emissions

Pollutant Name	Total Emissions (grams)	Total Emissions (Kilograms)
Total Emissions (US Tons)		
TOG	185,192.932101	185.192932
0.204140264		
S02	8,460.348845	8.460349
0.009325938		
Di esel _PM	8,220.897185	8.220897
0.009061988		
PM2.5	33,603.743384	33.603743
0.037041786		
PM10	36,199.287417	36.199287
0.039902884		
NOX	449,055.686231	449.055686
0.494999162		
FORMALDEHYDE	3,804.278987	3.804279
0.004193500		
CO2	831,200,263.490801	831,200.263491
916.241452089		
CO	2,355,696.820801	2,355.696821
2.596711251		
BUTADIENE	500.438577	0.500439
0.000551639		
BENZENE	3,124.423696	3.124424
0.003444088		
ACROLEIN	109.944326	0.109944
0.000121193		
ACETALDEHYDE	1,511.534958	1.511535
0.001666182		

END

Horizon Year\_Alt1\_corridor.ec

Title : Horizon Year  
 Version : CT-EMFAC 2.6  
 Run Date : 11 October 2012 10:57 AM  
 Scen Year : 2040  
 Season : Annual  
 Temperature : 68F  
 Relative Humidity : 59%  
 Area : Orange County

Peak User Input :  
 Total VMT : 2028113  
 Volume (vph) :  
 Road Length(mi) :

		VMT Distribution(%) by Speed(mph)											
		5	10	15	20	25	30	35	40	45	50	>75	
55	60	65	70										
13.9	9.3	8.2	.8	.2	.6	.7	.7	2.6	8	15.1	9.5	11	19.4

Offpeak User Input:  
 Total VMT : 2424238  
 Volume (vph) :  
 Road Length(mi) :

		VMT Distribution(%) by Speed(mph)											
		5	10	15	20	25	30	35	40	45	50	>75	
55	60	65	70										
16.4	12.6	22.1	32.6	.2	.1	.4	.5	5	.4			9.7	

Running Exhaust Emissions (grams)

Pollutant Name : TOG\_exh

speed(mph)	Emission Factor(grams/mile)	VMT by Speed
VMT-Speed Distribution (%)		Emissions by Speed
5	0.169000	4,056.23
0.09	685.502194	
10	0.107000	12,168.68
0.27	1,302.048546	
15	0.070000	19,045.27
0.43	1,333.168690	
20	0.050000	16,621.03
0.37	831.051450	
25	0.040000	62,427.89
1.40	2,497.115600	
30	0.034000	174,370.23
3.92	5,928.587820	
35	0.030000	427,456.96
9.60	12,823.708890	
40	0.027000	202,367.69
4.55	5,463.927549	
45	0.026000	223,092.43
5.01	5,800.403180	
50	0.027000	628,605.01

Horizon Year\_Alt1\_corridor.ec

Speed (mph)	EMISSION FACTOR (grams/mile)	EMISSIONS (grams)	VMT
14.12	0.029000	16,972.335216	679,482.74
15.26	0.032000	19,704.999431	494,068.50
11.10	0.039000	15,810.191904	702,061.86
15.77	0.045000	27,380.412696	806,526.49
18.11	0.056000	36,293.692140	0.00
0.00	0.000000	0.000000	0.00
-----			
Total	100.00	152,827.145306	4,452,351.00

Pollutant Name : SO2

speed(mph)	EMISSION FACTOR (grams/mile)	EMISSIONS (grams)	VMT by Speed
VMT-Speed Distribution (%)		EMISSIONS by Speed	
5	0.012000	4,056.23	4,056.23
0.09	0.009000	48.674712	12,168.68
10	0.007000	109.518102	19,045.27
15	0.006000	133.316869	16,621.03
20	0.005000	99.726174	62,427.89
25	0.004000	312.139450	174,370.23
30	0.004000	697.480920	427,456.96
35	0.004000	1,709.827852	202,367.69
40	0.004000	809.470748	223,092.43
45	0.004000	892.369720	628,605.01
50	0.004000	2,514.420032	679,482.74
14.12	0.004000	2,717.930956	494,068.50
55	0.005000	1,976.273988	702,061.86
15.26	0.005000	3,510.309320	806,526.49
60	0.005000	4,032.632460	0.00
11.10	0.005000	4,032.632460	0.00
65	0.000000	0.000000	0.00
15.77			
70			
18.11			
75			
0.00			
-----			
Total	100.00	19,564.091303	4,452,351.00

Pollutant Name : Diesel\_PM

speed(mph)	EMISSION FACTOR (grams/mile)	EMISSIONS (grams)	VMT by Speed
VMT-Speed Distribution (%)		EMISSIONS by Speed	
5	0.008052	4,056.23	4,056.23
0.09		32.660732	

Horizon Year Alt1\_corridor.ec

10		0.006512	12,168.68
0.27		79.242431	
15		0.005368	19,045.27
0.43		102.234993	
20		0.004532	16,621.03
0.37		75.326503	
25		0.003960	62,427.89
1.40		247.214444	
30		0.003608	174,370.23
3.92		629.127790	
35		0.003388	427,456.96
9.60		1,448.224191	
40		0.003300	202,367.69
4.55		667.813367	
45		0.003344	223,092.43
5.01		746.021086	
50		0.003476	628,605.01
14.12		2,185.031008	
55		0.003696	679,482.74
15.26		2,511.368203	
60		0.004004	494,068.50
11.10		1,978.250262	
65		0.004400	702,061.86
15.77		3,089.072202	
70		0.004884	806,526.49
18.11		3,939.075387	
75		0.005456	0.00
0.00		0.000000	
-----			
Total	100.00	17,730.662599	4,452,351.00

Pollutant Name : PM2.5

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.091000	4,056.23
0.09	369.116566	
10	0.060000	12,168.68
0.27	730.120680	
15	0.042000	19,045.27
0.43	799.901214	
20	0.031000	16,621.03
0.37	515.251899	
25	0.024000	62,427.89
1.40	1,498.269360	
30	0.019000	174,370.23
3.92	3,313.034370	
35	0.017000	427,456.96
9.60	7,266.768371	
40	0.015000	202,367.69
4.55	3,035.515305	
45	0.014000	223,092.43
5.01	3,123.294020	
50	0.014000	628,605.01
14.12	8,800.470112	
55	0.015000	679,482.74
15.26	10,192.241085	
60	0.017000	494,068.50
11.10	8,399.164449	
65	0.019000	702,061.86

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15.77	13,339.175416	
70	0.020000	806,526.49
18.11	16,130.529840	
75	0.020000	0.00
0.00	0.000000	
-----		
Total	77,512.852687	4,452,351.00
100.00		

Pollutant Name : PM10

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.098000	4,056.23
0.09	397.510148	
10	0.065000	12,168.68
0.27	790.964070	
15	0.045000	19,045.27
0.43	857.037015	
20	0.033000	16,621.03
0.37	548.493957	
25	0.026000	62,427.89
1.40	1,623.125140	
30	0.021000	174,370.23
3.92	3,661.774830	
35	0.018000	427,456.96
9.60	7,694.225334	
40	0.016000	202,367.69
4.55	3,237.882992	
45	0.016000	223,092.43
5.01	3,569.478880	
50	0.016000	628,605.01
14.12	10,057.680128	
55	0.016000	679,482.74
15.26	10,871.723824	
60	0.018000	494,068.50
11.10	8,893.232946	
65	0.021000	702,061.86
15.77	14,743.299144	
70	0.021000	806,526.49
18.11	16,937.056332	
75	0.022000	0.00
0.00	0.000000	
-----		
Total	83,883.484740	4,452,351.00
100.00		

Pollutant Name : NOX

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.264000	4,056.23
0.09	1,070.843664	
10	0.213000	12,168.68
0.27	2,591.928414	
15	0.176000	19,045.27
0.43	3,351.966992	
20	0.152000	16,621.03
0.37	2,526.396408	

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25		0.139000	62,427.89
1.40		8,677.476710	
30		0.130000	174,370.23
3.92		22,668.129900	
35		0.124000	427,456.96
9.60		53,004.663412	
40		0.120000	202,367.69
4.55		24,284.122440	
45		0.120000	223,092.43
5.01		26,771.091600	
50		0.123000	628,605.01
14.12		77,318.415984	
55		0.129000	679,482.74
15.26		87,653.273331	
60		0.140000	494,068.50
11.10		69,169.589580	
65		0.158000	702,061.86
15.77		110,925.774512	
70		0.181000	806,526.49
18.11		145,981.295052	
75		0.217000	0.00
0.00		0.000000	
-----			
Total	100.00	635,994.967999	4,452,351.00

Pollutant Name : FORMALDEHYDE

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.010467	4,056.23
0.09	42.456518	
10	0.006184	12,168.68
0.27	75.251105	
15	0.003505	19,045.27
0.43	66.753661	
20	0.002355	16,621.03
0.37	39.142523	
25	0.001992	62,427.89
1.40	124.356357	
30	0.001712	174,370.23
3.92	298.521834	
35	0.001500	427,456.96
9.60	641.185445	
40	0.001347	202,367.69
4.55	272.589274	
45	0.001240	223,092.43
5.01	276.634613	
50	0.001179	628,605.01
14.12	741.125304	
55	0.001171	679,482.74
15.26	795.674287	
60	0.001207	494,068.50
11.10	596.340676	
65	0.001311	702,061.86
15.77	920.403104	
70	0.001455	806,526.49
18.11	1,173.496046	
75	0.001700	0.00
0.00	0.000000	
-----		



		Horizon Year	Alt1_corridor.ec	
40		0.676000		202,367.69
4.55		136,800.556412		
45		0.641000		223,092.43
5.01		143,002.247630		
50		0.616000		628,605.01
14.12		387,220.684928		
55		0.603000		679,482.74
15.26		409,728.091617		
60		0.606000		494,068.50
11.10		299,405.509182		
65		0.633000		702,061.86
15.77		444,405.159912		
70		0.721000		806,526.49
18.11		581,505.600732		
75		0.875000		0.00
0.00		0.000000		
-----				
Total	100.00	2,952,792.790204		4,452,351.00

Pollutant Name : BUTADIENE

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0.000633		4,056.23
0.09	2.567591		
10	0.000412		12,168.68
0.27	5.013495		
15	0.000280		19,045.27
0.43	5.332675		
20	0.000207		16,621.03
0.37	3.440553		
25	0.000166		62,427.89
1.40	10.363030		
30	0.000139		174,370.23
3.92	24.237462		
35	0.000123		427,456.96
9.60	52.577206		
40	0.000115		202,367.69
4.55	23.272284		
45	0.000112		223,092.43
5.01	24.986352		
50	0.000116		628,605.01
14.12	72.918181		
55	0.000129		679,482.74
15.26	87.653273		
60	0.000148		494,068.50
11.10	73.122138		
65	0.000181		702,061.86
15.77	127.073197		
70	0.000217		806,526.49
18.11	175.016249		
75	0.000276		0.00
0.00	0.000000		
-----			
Total	100.00	687.573686	4,452,351.00

Pollutant Name : BENZENE

speed(mph)	Emi ssi on Factor(grams/mi le)	Horizon Year_Alt1_corridor.ec	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed		
5	0.003521		4,056.23
0.09	14.281972		
10	0.002238		12,168.68
0.27	27.233501		
15	0.001463		19,045.27
0.43	27.863226		
20	0.001058		16,621.03
0.37	17.585049		
25	0.000856		62,427.89
1.40	53.438274		
30	0.000719		174,370.23
3.92	125.372195		
35	0.000633		427,456.96
9.60	270.580258		
40	0.000586		202,367.69
4.55	118.587465		
45	0.000564		223,092.43
5.01	125.824131		
50	0.000576		628,605.01
14.12	362.076485		
55	0.000627		679,482.74
15.26	426.035677		
60	0.000707		494,068.50
11.10	349.306427		
65	0.000846		702,061.86
15.77	593.944337		
70	0.001001		806,526.49
18.11	807.333018		
75	0.001254		0.00
0.00	0.000000		
-----			
Total			4,452,351.00
	100.00	3,319.462014	

Pollutant Name : ACROLEIN

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.000124	4,056.23
0.09	0.502972	
10	0.000083	12,168.68
0.27	1.010000	
15	0.000058	19,045.27
0.43	1.104625	
20	0.000044	16,621.03
0.37	0.731325	
25	0.000035	62,427.89
1.40	2.184976	
30	0.000029	174,370.23
3.92	5.056737	
35	0.000026	427,456.96
9.60	11.113881	
40	0.000024	202,367.69
4.55	4.856824	
45	0.000024	223,092.43
5.01	5.354218	
50	0.000025	628,605.01
14.12	15.715125	

Horizon Year_Alt1_corridor.ec		
55	0.00028	679,482.74
15.26	19.025517	
60	0.00032	494,068.50
11.10	15.810192	
65	0.00040	702,061.86
15.77	28.082475	
70	0.00048	806,526.49
18.11	38.713272	
75	0.00061	0.00
0.00	0.000000	
-----		
Total	149.262140	4,452,351.00
100.00		

Pollutant Name : ACETALDEHYDE

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VM T-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.004771	4,056.23
0.09	19.352254	
10	0.002785	12,168.68
0.27	33.889768	
15	0.001537	19,045.27
0.43	29.272575	
20	0.001017	16,621.03
0.37	16.903586	
25	0.000869	62,427.89
1.40	54.249836	
30	0.000751	174,370.23
3.92	130.952043	
35	0.000658	427,456.96
9.60	281.266682	
40	0.000587	202,367.69
4.55	118.789832	
45	0.000536	223,092.43
5.01	119.577542	
50	0.000501	628,605.01
14.12	314.931109	
55	0.000487	679,482.74
15.26	330.908094	
60	0.000490	494,068.50
11.10	242.093564	
65	0.000516	702,061.86
15.77	362.263922	
70	0.000562	806,526.49
18.11	453.267889	
75	0.000642	0.00
0.00	0.000000	
-----		
Total	2,507.718697	4,452,351.00
100.00		

Idl i ng Emi ssi ons (grams) (Currentl y NOT Avai l abl e)

-----  
 Evaporative Running Loss Emissions (grams)  
 -----

Pollutant Name : TOG\_Ios  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 91,954.763420                      0.017000                      90,151.73

Pollutant Name : FORMALDEHYDE  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 0.000000                              0.000000                      90,151.73

Pollutant Name : BUTADIENE  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 5.409104                              0.000001                      90,151.73

Pollutant Name : BENZENE  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 903.320323                              0.000167                      90,151.73

Pollutant Name : ACROLEIN  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 0.000000                              0.000000                      90,151.73

Pollutant Name : ACETALDEHYDE  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 0.000000                              0.000000                      90,151.73

Total Emissions

Pollutant Name	Total Emissions (grams)	Total Emissions (Kilograms)
Total Emissions (US Tons)		
TOG	244,781.908726	244.781909
0.269825867		
S02	19,564.091303	19.564091
0.021565719		
Di esel _PM	17,730.662599	17.730663
0.019544710		
PM2.5	77,512.852687	77.512853
0.085443294		
PM10	83,883.484740	83.883485
0.092465714		
NOX	635,994.967999	635.994968
0.701064447		
FORMALDEHYDE	6,063.930746	6.063931
0.006684339		
C02	2,032,573.659.465370	2,032,573.659465
2,240.528935116		
CO	2,952,792.790204	2,952.792790
3.254896891		
BUTADIENE	692.982790	0.692983
0.000763883		
BENZENE	4,222.782337	4.222782
0.004654821		
ACROLEIN	149.262140	0.149262
0.000164533		
ACETALDEHYDE	2,507.718697	2.507719
0.002764287		

END

Horizon Year\_Alt1\_surrounding.ec

Title : Horizon Year  
 Version : CT-EMFAC 2.6  
 Run Date : 11 October 2012 10:59 AM  
 Scen Year : 2040  
 Season : Annual  
 Temperature : 68F  
 Relative Humidity : 59%  
 Area : Orange County

Peak User Input :  
 Total VMT : 1427094  
 Volume (vph) :  
 Road Length(mi) :

Number of Hours : 55 60 65 70 >75

VMT Distribution(%) by Speed(mph)

Speed (mph)	5	10	15	20	25	30	35	40	45	50
55										
60	1.8									
65	2.8									
70	5.6									
>75			.1	3.4	11.4	9.1	24.6	31.1	9.8	.3

Offpeak User Input:  
 Total VMT : 934112  
 Volume (vph) :  
 Road Length(mi) :

Number of Hours : 55 60 65 70 >75

VMT Distribution(%) by Speed(mph)

Speed (mph)	5	10	15	20	25	30	35	40	45	50
55										
60										
65										
70										
>75							9	52.7	29.5	.6

-----  
 Running Exhaust Emissions (grams)  
 -----

Pollutant Name : TOG\_exh

speed(mph)	Emission Factor(grams/mile)	VMT by Speed
VMT-Speed Distribution (%)	Emissions by Speed	
5	0.169000	0.00
0.00	0.000000	
10	0.107000	0.00
0.00	0.000000	
15	0.070000	1,427.09
0.06	99.896580	
20	0.050000	48,521.20
2.05	2,426.059800	
25	0.040000	162,688.72
6.89	6,507.548640	
30	0.034000	129,865.55
5.50	4,415.428836	
35	0.030000	435,135.20
18.43	13,054.056120	
40	0.027000	936,103.26
39.65	25,274.787966	
45	0.026000	415,418.25
17.59	10,800.874552	
50	0.027000	9,885.95

Horizon Year\_Alt1\_surrounding.ec

Speed (mph)	EMISSION FACTOR (grams/mile)	EMISSIONS BY SPEED	VMT BY SPEED
55	0.029000	266.920758	0.00
60	0.032000	0.000000	25,687.69
65	0.039000	822.006144	39,958.63
70	0.045000	1,558.386648	156,514.45
75	0.056000	7,043.150160	0.00
0.00	0.000000	0.000000	
-----			
Total	100.00	72,269.116204	2,361,206.00

Pollutant Name : SO2

speed(mph)	EMISSION FACTOR(grams/mile)	EMISSIONS BY SPEED	VMT by Speed
VMT-Speed Distribution (%)			
5	0.012000	0.000000	0.00
10	0.009000	0.000000	0.00
15	0.007000	0.000000	1,427.09
20	0.006000	9.989658	48,521.20
25	0.005000	291.127176	162,688.72
30	0.004000	813.443580	129,865.55
35	0.004000	519.462216	435,135.20
40	0.004000	1,740.540816	936,103.26
45	0.004000	3,744.413032	415,418.25
50	0.004000	1,661.673008	9,885.95
55	0.004000	39.543816	0.00
60	0.004000	0.000000	25,687.69
65	0.005000	102.750768	39,958.63
70	0.005000	199.793160	156,514.45
75	0.005000	782.572240	0.00
0.00	0.000000	0.000000	
-----			
Total	100.00	9,905.309470	2,361,206.00

Pollutant Name : Diesel\_PM

speed(mph)	EMISSION FACTOR(grams/mile)	EMISSIONS BY SPEED	VMT by Speed
VMT-Speed Distribution (%)			
5	0.008052	0.000000	0.00
0.00	0.000000		

Horizon Year\_Alt1\_surrounding.ec

10	0.00	0.006512	0.00
15	0.06	0.000000	1,427.09
20	2.05	7.660641	48,521.20
25	6.89	0.004532	162,688.72
30	5.50	219.898060	129,865.55
35	18.43	0.003960	435,135.20
40	39.65	644.247315	936,103.26
45	17.59	0.003608	415,418.25
50	0.42	468.554919	9,885.95
55	0.00	0.003388	0.00
60	1.09	1,474.238071	25,687.69
65	1.69	0.003300	39,958.63
70	6.63	3,089.140751	156,514.45
75	0.00	0.003344	0.00
		1,389.158635	
		0.003476	
		34.363576	
		0.003696	
		0.000000	
		0.004004	
		102.853519	
		0.004400	
		175.817981	
		0.004884	
		764.416564	
		0.005456	
		0.000000	
----- Total			2,361,206.00
	100.00	8,370.350032	

Pollutant Name : PM2.5

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.091000	0.00
10	0.000000	0.00
15	0.042000	1,427.09
20	59.937948	48,521.20
25	0.031000	162,688.72
30	1,504.157076	129,865.55
35	0.024000	435,135.20
40	3,904.529184	936,103.26
45	0.019000	415,418.25
50	2,467.445526	9,885.95
55	0.017000	0.00
60	7,397.298468	25,687.69
65	0.015000	39,958.63
	14,041.548870	
	0.014000	
	5,815.855528	
	0.014000	
	138.403356	
	0.015000	
	0.000000	
	0.017000	
	436.690764	
	0.019000	

Horizon Year\_Alt1\_surrounding.ec

70	1.69	759.214008	156,514.45
75	6.63	3,130.288960	0.00
	0.00	0.000000	
-----			
Total	100.00	39,655.369688	2,361,206.00

Pollutant Name : PM10

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0.098000	0.000000	0.00
10	0.065000	0.000000	0.00
15	0.045000	64.219230	1,427.09
20	0.033000	1,601.199468	48,521.20
25	0.026000	4,229.906616	162,688.72
30	0.021000	2,727.176634	129,865.55
35	0.018000	7,832.433672	435,135.20
40	0.016000	14,977.652128	936,103.26
45	0.016000	6,646.692032	415,418.25
50	0.016000	158.175264	9,885.95
55	0.016000	0.000000	0.00
60	0.018000	462.378456	25,687.69
65	0.021000	839.131272	39,958.63
70	0.021000	3,286.803408	156,514.45
75	0.022000	0.000000	0.00
-----			
Total	100.00	42,825.768180	2,361,206.00

Pollutant Name : NOX

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0.264000	0.000000	0.00
10	0.213000	0.000000	0.00
15	0.176000	251.168544	1,427.09
20	0.152000	7,375.221792	48,521.20

Hori zon Year_Al t1_surroundi ng.ec		
25		0.139000
6.89		22,613.731524
30		0.130000
5.50		16,882.522020
35		0.124000
18.43		53,956.765296
40		0.120000
39.65		112,332.390960
45		0.120000
17.59		49,850.190240
50		0.123000
0.42		1,215.972342
55		0.129000
0.00		0.000000
60		0.140000
1.09		3,596.276880
65		0.158000
1.69		6,313.463856
70		0.181000
6.63		28,329.115088
75		0.217000
0.00		0.000000
-----		
Total	100.00	302,716.818542
		2,361,206.00

Pollutant Name : FORMALDEHYDE

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.010467	0.00
0.00	0.000000	
10	0.006184	0.00
0.00	0.000000	
15	0.003505	1,427.09
0.06	5.001964	
20	0.002355	48,521.20
2.05	114.267417	
25	0.001992	162,688.72
6.89	324.075922	
30	0.001712	129,865.55
5.50	222.329828	
35	0.001500	435,135.20
18.43	652.702806	
40	0.001347	936,103.26
39.65	1,260.931089	
45	0.001240	415,418.25
17.59	515.118632	
50	0.001179	9,885.95
0.42	11.655540	
55	0.001171	0.00
0.00	0.000000	
60	0.001207	25,687.69
1.09	31.005044	
65	0.001311	39,958.63
1.69	52.385767	
70	0.001455	156,514.45
6.63	227.728522	
75	0.001700	0.00
0.00	0.000000	
-----		

Horizon Year\_Alt1\_surrounding.ec

Total	100.00	3,417.202531	2,361,206.00
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Pollutant Name : CO2

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	1,232.163000	0.00
0.00	0.000000	
10	935.946000	0.00
0.00	0.000000	
15	738.149000	1,427.09
0.06	1,053,408.009006	
20	604.949000	48,521.20
2.05	29,352,848.999004	
25	517.903000	162,688.72
6.89	84,256,974.082548	
30	459.353000	129,865.55
5.50	59,654,131.826562	
35	421.611000	435,135.20
18.43	183,457,788.493644	
40	400.126000	936,103.26
39.65	374,559,252.210508	
45	392.485000	415,418.25
17.59	163,045,432.636220	
50	397.919000	9,885.95
0.42	3,933,808.929726	
55	417.145000	0.00
0.00	0.000000	
60	452.516000	25,687.69
1.09	11,624,091.633072	
65	508.510000	39,958.63
1.69	20,319,363.958320	
70	516.703000	156,514.45
6.63	80,871,484.824944	
75	529.630000	0.00
0.00	0.000000	
<hr style="border-top: 1px dashed black;"/>		
Total	1,012,128,585.603550	2,361,206.00

Pollutant Name : CO

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	1.359000	0.00
0.00	0.000000	
10	1.170000	0.00
0.00	0.000000	
15	1.028000	1,427.09
0.06	1,467.052632	
20	0.922000	48,521.20
2.05	44,736.542712	
25	0.842000	162,688.72
6.89	136,983.898872	
30	0.776000	129,865.55
5.50	100,775.669904	
35	0.721000	435,135.20
18.43	313,732.482084	

Speed (mph)	Horizon Year	AI t1_surrounding.ec	EMISSIONS
40	0.676000		936,103.26
39.65	632,805.802408		
45	0.641000		415,418.25
17.59	266,283.099532		
50	0.616000		9,885.95
0.42	6,089.747664		
55	0.603000		0.00
0.00	0.000000		
60	0.606000		25,687.69
1.09	15,566.741352		
65	0.633000		39,958.63
1.69	25,293.814056		
70	0.721000		156,514.45
6.63	112,846.917008		
75	0.875000		0.00
0.00	0.000000		
----- Total			2,361,206.00
	100.00	1,656,581.768224	

Pollutant Name : BUTADIENE

speed(mph)	EMISSION FACTOR (grams/mile)	VMT by Speed
VMT-Speed Distribution (%)	Emissions by Speed	
5	0.000633	0.00
0.00	0.000000	
10	0.000412	0.00
0.00	0.000000	
15	0.000280	1,427.09
0.06	0.399586	
20	0.000207	48,521.20
2.05	10.043888	
25	0.000166	162,688.72
6.89	27.006327	
30	0.000139	129,865.55
5.50	18.051312	
35	0.000123	435,135.20
18.43	53.521630	
40	0.000115	936,103.26
39.65	107.651875	
45	0.000112	415,418.25
17.59	46.526844	
50	0.000116	9,885.95
0.42	1.146771	
55	0.000129	0.00
0.00	0.000000	
60	0.000148	25,687.69
1.09	3.801778	
65	0.000181	39,958.63
1.69	7.232512	
70	0.000217	156,514.45
6.63	33.963635	
75	0.000276	0.00
0.00	0.000000	
----- Total		
	100.00	309.346158
		2,361,206.00

Pollutant Name : BENZENE

Horizon Year\_Alt1\_surrounding.ec

speed(mph)	Emi ssi on	Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed		
5		0.003521	0.00
0.00		0.000000	
10		0.002238	0.00
0.00		0.000000	
15		0.001463	1,427.09
0.06		2.087839	
20		0.001058	48,521.20
2.05		51.335425	
25		0.000856	162,688.72
6.89		139.261541	
30		0.000719	129,865.55
5.50		93.373333	
35		0.000633	435,135.20
18.43		275.440584	
40		0.000586	936,103.26
39.65		548.556509	
45		0.000564	415,418.25
17.59		234.295894	
50		0.000576	9,885.95
0.42		5.694310	
55		0.000627	0.00
0.00		0.000000	
60		0.000707	25,687.69
1.09		18.161198	
65		0.000846	39,958.63
1.69		33.805003	
70		0.001001	156,514.45
6.63		156.670962	
75		0.001254	0.00
0.00		0.000000	
-----			
Total			2,361,206.00
	100.00	1,558.682598	

Pollutant Name : ACROLEIN

speed(mph)	Emi ssi on	Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed		
5		0.000124	0.00
0.00		0.000000	
10		0.000083	0.00
0.00		0.000000	
15		0.000058	1,427.09
0.06		0.082771	
20		0.000044	48,521.20
2.05		2.134933	
25		0.000035	162,688.72
6.89		5.694105	
30		0.000029	129,865.55
5.50		3.766101	
35		0.000026	435,135.20
18.43		11.313515	
40		0.000024	936,103.26
39.65		22.466478	
45		0.000024	415,418.25
17.59		9.970038	
50		0.000025	9,885.95
0.42		0.247149	

Hori zon Year_Alt1_surroundi ng.ec			
55		0.000028	0.00
0.00		0.000000	
60		0.000032	25,687.69
1.09		0.822006	
65		0.000040	39,958.63
1.69		1.598345	
70		0.000048	156,514.45
6.63		7.512694	
75		0.000061	0.00
0.00		0.000000	
----- Total			2,361,206.00
	100.00	65.608136	

Pollutant Name : ACETALDEHYDE

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0.004771	0.00	0.00
0.00	0.000000		
10	0.002785	0.00	0.00
0.00	0.000000		
15	0.001537	1,427.09	
0.06	2.193443		
20	0.001017	48,521.20	
2.05	49.346056		
25	0.000869	162,688.72	
6.89	141.376494		
30	0.000751	129,865.55	
5.50	97.529031		
35	0.000658	435,135.20	
18.43	286.318964		
40	0.000587	936,103.26	
39.65	549.492612		
45	0.000536	415,418.25	
17.59	222.664183		
50	0.000501	9,885.95	
0.42	4.952863		
55	0.000487	0.00	0.00
0.00	0.000000		
60	0.000490	25,687.69	
1.09	12.586969		
65	0.000516	39,958.63	
1.69	20.618654		
70	0.000562	156,514.45	
6.63	87.961120		
75	0.000642	0.00	0.00
0.00	0.000000		
----- Total			2,361,206.00
	100.00	1,475.040391	

-----  
-----  
Idl i ng Emi ssi ons (grams) (Currentl y NOT Avai l abl e)  
-----  
-----

Horizon Year\_At1\_surrounding.ec

-----  
Evaporative Running Loss Emissions (grams)  
-----

Pollutant Name : TOG\_Ios  
Emission Factor(grams/min)      total running time(hrs)  
Emissions  
63,138.661522                      0.017000                      61,900.65

Pollutant Name : FORMALDEHYDE  
Emission Factor(grams/min)      total running time(hrs)  
Emissions  
0.000000                      0.000000                      61,900.65

Pollutant Name : BUTADIENE  
Emission Factor(grams/min)      total running time(hrs)  
Emissions  
3.714039                      0.000001                      61,900.65

Pollutant Name : BENZENE  
Emission Factor(grams/min)      total running time(hrs)  
Emissions  
620.244498                      0.000167                      61,900.65

Pollutant Name : ACROLEIN  
Emission Factor(grams/min)      total running time(hrs)  
Emissions  
0.000000                      0.000000                      61,900.65

Pollutant Name : ACETALDEHYDE  
Emission Factor(grams/min)      total running time(hrs)  
Emissions  
0.000000                      0.000000                      61,900.65  
-----

Hori zon Year\_Alt1\_surroundi ng. ec

Total Emi ssi ons

Pollutant Name Total Emi ssi ons (US Tons)	Total Emi ssi ons (grams)	Total Emi ssi ons (Ki l ograms)
TOG 0. 149261525	135, 407. 777726	135. 407778
S02 0. 010918735	9, 905. 309470	9. 905309
Di esel _PM 0. 009226732	8, 370. 350032	8. 370350
PM2. 5 0. 043712563	39, 655. 369688	39. 655370
PM10 0. 047207329	42, 825. 768180	42. 825768
NOX 0. 333688173	302, 716. 818542	302. 716819
FORMALDEHYDE 0. 003766821	3, 417. 202531	3. 417203
CO2 1, 115. 680788021	1, 012, 128, 585. 603550	1, 012, 128. 585604
CO 1. 826068821	1, 656, 581. 768224	1, 656. 581768
BUTADI ENE 0. 000345090	313. 060197	0. 313060
BENZENE 0. 002401856	2, 178. 927097	2. 178927
ACROLEI N 0. 000072321	65. 608136	0. 065608
ACETALDEHYDE 0. 001625954	1, 475. 040391	1. 475040

END

Horizon Year\_Alt2\_corridor.ec

Title : Horizon Year  
 Version : CT-EMFAC 2.6  
 Run Date : 11 October 2012 02:54 PM  
 Scen Year : 2040  
 Season : Annual  
 Temperature : 68F  
 Relative Humidity : 59%  
 Area : Orange County

Peak User Input :  
 Number of Hours : Total VMT 2073290  
 Volume (vph)  
 Road Length(mi)

		VMT Distribution(%) by Speed(mph)									
		5	10	15	20	25	30	35	40	45	50
55	60	65	70	>75							
6.2	15.8	12.3	1.1								
Offpeak User Input:											

Number of Hours : Total VMT 2453396  
 Volume (vph)  
 Road Length(mi)

		VMT Distribution(%) by Speed(mph)									
		5	10	15	20	25	30	35	40	45	50
55	60	65	70	>75							
11.1	14.5	27.2	33.8								

Running Exhaust Emissions (grams)

Pollutant Name : TOG\_exh

speed(mph)	Emission Factor(grams/mile)	VMT by Speed
VMT-Speed Distribution (%)	Emissions by Speed	
5	0.169000	2,073.29
0.05	350.386010	
10	0.107000	16,966.43
0.37	1,815.407582	
15	0.070000	14,893.14
0.33	1,042.519520	
20	0.050000	19,419.82
0.43	970.991100	
25	0.040000	71,632.18
1.58	2,865.287120	
30	0.034000	215,449.40
4.76	7,325.279600	
35	0.030000	296,446.05
6.55	8,893.381620	
40	0.027000	107,258.21
2.37	2,895.971778	
45	0.026000	252,008.41
5.57	6,552.218608	
50	0.027000	671,953.48

Horizon Year\_Alt2\_corridor.ec

14.84	18,142.743852	
55	0.029000	400,870.94
8.86	11,625.257144	
60	0.032000	683,322.24
15.10	21,866.311680	
65	0.039000	922,338.38
20.38	35,971.196898	
70	0.045000	852,054.04
18.82	38,342.431710	
75	0.056000	0.00
0.00	0.000000	
-----		
Total		4,526,686.00
100.00	158,659.384222	

Pollutant Name : SO2

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.012000	2,073.29
0.05	24.879480	
10	0.009000	16,966.43
0.37	152.697834	
15	0.007000	14,893.14
0.33	104.251952	
20	0.006000	19,419.82
0.43	116.518932	
25	0.005000	71,632.18
1.58	358.160890	
30	0.004000	215,449.40
4.76	861.797600	
35	0.004000	296,446.05
6.55	1,185.784216	
40	0.004000	107,258.21
2.37	429.032856	
45	0.004000	252,008.41
5.57	1,008.033632	
50	0.004000	671,953.48
14.84	2,687.813904	
55	0.004000	400,870.94
8.86	1,603.483744	
60	0.004000	683,322.24
15.10	2,733.288960	
65	0.005000	922,338.38
20.38	4,611.691910	
70	0.005000	852,054.04
18.82	4,260.270190	
75	0.005000	0.00
0.00	0.000000	
-----		
Total		4,526,686.00
100.00	20,137.706100	

Pollutant Name : Di esel \_PM

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.008052	2,073.29
0.05	16.694131	

Horizon Year\_Alt2\_corridor.ec

10		0.006512	16,966.43
0.37		110.485366	
15		0.005368	14,893.14
0.33		79.946354	
20		0.004532	19,419.82
0.43		88.010633	
25		0.003960	71,632.18
1.58		283.663425	
30		0.003608	215,449.40
4.76		777.341435	
35		0.003388	296,446.05
6.55		1,004.359231	
40		0.003300	107,258.21
2.37		353.952106	
45		0.003344	252,008.41
5.57		842.716116	
50		0.003476	671,953.48
14.84		2,335.710283	
55		0.003696	400,870.94
8.86		1,481.618979	
60		0.004004	683,322.24
15.10		2,736.022249	
65		0.004400	922,338.38
20.38		4,058.288881	
70		0.004884	852,054.04
18.82		4,161.431922	
75		0.005456	0.00
0.00		0.000000	
-----			
Total	100.00	18,330.241112	4,526,686.00

Pollutant Name : PM2.5

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.091000	2,073.29
0.05	188.669390	
10	0.060000	16,966.43
0.37	1,017.985560	
15	0.042000	14,893.14
0.33	625.511712	
20	0.031000	19,419.82
0.43	602.014482	
25	0.024000	71,632.18
1.58	1,719.172272	
30	0.019000	215,449.40
4.76	4,093.538600	
35	0.017000	296,446.05
6.55	5,039.582918	
40	0.015000	107,258.21
2.37	1,608.873210	
45	0.014000	252,008.41
5.57	3,528.117712	
50	0.014000	671,953.48
14.84	9,407.348664	
55	0.015000	400,870.94
8.86	6,013.064040	
60	0.017000	683,322.24
15.10	11,616.478080	
65	0.019000	922,338.38

Horizon Year\_Alt2\_corridor.ec

20.38	17,524.429258	852,054.04
70	0.020000	
18.82	17,041.080760	0.00
75	0.020000	
0.00	0.000000	
-----		
Total	80,025.866658	4,526,686.00
100.00		

Pollutant Name : PM10

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.098000	2,073.29
0.05	203.182420	
10	0.065000	16,966.43
0.37	1,102.817690	
15	0.045000	14,893.14
0.33	670.191120	
20	0.033000	19,419.82
0.43	640.854126	
25	0.026000	71,632.18
1.58	1,862.436628	
30	0.021000	215,449.40
4.76	4,524.437400	
35	0.018000	296,446.05
6.55	5,336.028972	
40	0.016000	107,258.21
2.37	1,716.131424	
45	0.016000	252,008.41
5.57	4,032.134528	
50	0.016000	671,953.48
14.84	10,751.255616	
55	0.016000	400,870.94
8.86	6,413.934976	
60	0.018000	683,322.24
15.10	12,299.800320	
65	0.021000	922,338.38
20.38	19,369.106022	
70	0.021000	852,054.04
18.82	17,893.134798	
75	0.022000	0.00
0.00	0.000000	
-----		
Total	86,815.446040	4,526,686.00
100.00		

Pollutant Name : NOX

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.264000	2,073.29
0.05	547.348560	
10	0.213000	16,966.43
0.37	3,613.848738	
15	0.176000	14,893.14
0.33	2,621.191936	
20	0.152000	19,419.82
0.43	2,951.812944	

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25		0.139000	71,632.18
1.58		9,956.872742	
30		0.130000	215,449.40
4.76		28,008.422000	
35		0.124000	296,446.05
6.55		36,759.310696	
40		0.120000	107,258.21
2.37		12,870.985680	
45		0.120000	252,008.41
5.57		30,241.008960	
50		0.123000	671,953.48
14.84		82,650.277548	
55		0.129000	400,870.94
8.86		51,712.350744	
60		0.140000	683,322.24
15.10		95,665.113600	
65		0.158000	922,338.38
20.38		145,729.464356	
70		0.181000	852,054.04
18.82		154,221.780878	
75		0.217000	0.00
0.00		0.000000	
-----			
Total	100.00	657,549.789382	4,526,686.00

Pollutant Name : FORMALDEHYDE

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.010467	2,073.29
0.05	21.701126	
10	0.006184	16,966.43
0.37	104.920378	
15	0.003505	14,893.14
0.33	52.200442	
20	0.002355	19,419.82
0.43	45.733681	
25	0.001992	71,632.18
1.58	142.691299	
30	0.001712	215,449.40
4.76	368.849373	
35	0.001500	296,446.05
6.55	444.669081	
40	0.001347	107,258.21
2.37	144.476814	
45	0.001240	252,008.41
5.57	312.490426	
50	0.001179	671,953.48
14.84	792.233148	
55	0.001171	400,870.94
8.86	469.419866	
60	0.001207	683,322.24
15.10	824.769944	
65	0.001311	922,338.38
20.38	1,209.185619	
70	0.001455	852,054.04
18.82	1,239.738625	
75	0.001700	0.00
0.00	0.000000	
-----		

Horizon Year\_Alt2\_corridor.ec

Total	100.00	6,173.079822	4,526,686.00
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Pollutant Name : CO2

speed(mph)	Emi ssi on Factor(grams/mi l e)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	1,232.163000	2,073.29
0.05	2,554,631.226270	
10	935.946000	16,966.43
0.37	15,879,658.548996	
15	738.149000	14,893.14
0.33	10,993,353.445264	
20	604.949000	19,419.82
0.43	11,748,001.899078	
25	517.903000	71,632.18
1.58	37,098,519.882734	
30	459.353000	215,449.40
4.76	98,967,328.238200	
35	421.611000	296,446.05
6.55	124,984,917.272994	
40	400.126000	107,258.21
2.37	42,916,800.134964	
45	392.485000	252,008.41
5.57	98,909,520.013880	
50	397.919000	671,953.48
14.84	267,383,055.216444	
55	417.145000	400,870.94
8.86	167,221,306.597720	
60	452.516000	683,322.24
15.10	309,214,246.755840	
65	508.510000	922,338.38
20.38	469,018,290.630820	
70	516.703000	852,054.04
18.82	440,258,877.596714	
75	529.630000	0.00
0.00	0.000000	
-----		
Total	2,097,148,507.459920	4,526,686.00

Pollutant Name : CO

speed(mph)	Emi ssi on Factor(grams/mi l e)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	1.359000	2,073.29
0.05	2,817.601110	
10	1.170000	16,966.43
0.37	19,850.718420	
15	1.028000	14,893.14
0.33	15,310.143808	
20	0.922000	19,419.82
0.43	17,905.075884	
25	0.842000	71,632.18
1.58	60,314.293876	
30	0.776000	215,449.40
4.76	167,188.734400	
35	0.721000	296,446.05
6.55	213,737.604934	

Horizon Year_Alt2_corridor.ec		
40	0.676000	107,258.21
2.37	72,506.552664	
45	0.641000	252,008.41
5.57	161,537.389528	
50	0.616000	671,953.48
14.84	413,923.341216	
55	0.603000	400,870.94
8.86	241,725.174408	
60	0.606000	683,322.24
15.10	414,093.277440	
65	0.633000	922,338.38
20.38	583,840.195806	
70	0.721000	852,054.04
18.82	614,330.961398	
75	0.875000	0.00
0.00	0.000000	
-----		
Total	2,999,081.064892	4,526,686.00
100.00		

Pollutant Name : BUTADIENE

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.000633	2,073.29
0.05	1.312393	
10	0.000412	16,966.43
0.37	6.990168	
15	0.000280	14,893.14
0.33	4.170078	
20	0.000207	19,419.82
0.43	4.019903	
25	0.000166	71,632.18
1.58	11.890942	
30	0.000139	215,449.40
4.76	29.947467	
35	0.000123	296,446.05
6.55	36.462865	
40	0.000115	107,258.21
2.37	12.334695	
45	0.000112	252,008.41
5.57	28.224942	
50	0.000116	671,953.48
14.84	77.946603	
55	0.000129	400,870.94
8.86	51.712351	
60	0.000148	683,322.24
15.10	101.131692	
65	0.000181	922,338.38
20.38	166.943247	
70	0.000217	852,054.04
18.82	184.895726	
75	0.000276	0.00
0.00	0.000000	
-----		
Total	717.983069	4,526,686.00
100.00		

Pollutant Name : BENZENE

speed(mph)	Emi ssi on Factor(grams/mi le)	Horizon Year_Alt2_corridor.ec	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed		
5	0.003521		2,073.29
0.05	7.300054		
10	0.002238		16,966.43
0.37	37.970861		
15	0.001463		14,893.14
0.33	21.788658		
20	0.001058		19,419.82
0.43	20.546172		
25	0.000856		71,632.18
1.58	61.317144		
30	0.000719		215,449.40
4.76	154.908119		
35	0.000633		296,446.05
6.55	187.650352		
40	0.000586		107,258.21
2.37	62.853313		
45	0.000564		252,008.41
5.57	142.132742		
50	0.000576		671,953.48
14.84	387.045202		
55	0.000627		400,870.94
8.86	251.346077		
60	0.000707		683,322.24
15.10	483.108824		
65	0.000846		922,338.38
20.38	780.298271		
70	0.001001		852,054.04
18.82	852.906092		
75	0.001254		0.00
0.00	0.000000		
----- Total			4,526,686.00
	100.00	3,451.171882	

Pollutant Name : ACROLEIN

speed(mph)	Emi ssi on Factor(grams/mi le)	Horizon Year_Alt2_corridor.ec	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed		
5	0.000124		2,073.29
0.05	0.257088		
10	0.000083		16,966.43
0.37	1.408213		
15	0.000058		14,893.14
0.33	0.863802		
20	0.000044		19,419.82
0.43	0.854472		
25	0.000035		71,632.18
1.58	2.507126		
30	0.000029		215,449.40
4.76	6.248033		
35	0.000026		296,446.05
6.55	7.707597		
40	0.000024		107,258.21
2.37	2.574197		
45	0.000024		252,008.41
5.57	6.048202		
50	0.000025		671,953.48
14.84	16.798837		

		Horizon Year	Alt2_corridor.ec	
55		0.000028		400,870.94
	8.86		11.224386	
60		0.000032		683,322.24
	15.10		21.866312	
65		0.000040		922,338.38
	20.38		36.893535	
70		0.000048		852,054.04
	18.82		40.898594	
75		0.000061		0.00
	0.00		0.000000	
-----				
Total			156.150394	4,526,686.00
	100.00			

Pollutant Name : ACETALDEHYDE

speed(mph)	Emi ssi on Factor(grams/mi le)		VMT by Speed
VMT-Speed Di stri buti on (%)		Emi ssi ons by Speed	
5		0.004771	2,073.29
	0.05		9.891667
10		0.002785	16,966.43
	0.37		47.251496
15		0.001537	14,893.14
	0.33		22.890750
20		0.001017	19,419.82
	0.43		19.749959
25		0.000869	71,632.18
	1.58		62.248363
30		0.000751	215,449.40
	4.76		161.802499
35		0.000658	296,446.05
	6.55		195.061504
40		0.000587	107,258.21
	2.37		62.960572
45		0.000536	252,008.41
	5.57		135.076507
50		0.000501	671,953.48
	14.84		336.648691
55		0.000487	400,870.94
	8.86		195.224146
60		0.000490	683,322.24
	15.10		334.827898
65		0.000516	922,338.38
	20.38		475.926605
70		0.000562	852,054.04
	18.82		478.854369
75		0.000642	0.00
	0.00		0.000000
-----			
Total			2,538.415025
	100.00		

-----  
 Idling Emi ssi ons (grams) (Currentl y NOT Avai l abl e)  
 -----

-----  
 Evaporative Running Loss Emissions (grams)  
 -----

Pollutant Name : TOG\_Ios  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 91,139.028238                      0.017000                      89,351.99

Pollutant Name : FORMALDEHYDE  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 0.000000                              0.000000                      89,351.99

Pollutant Name : BUTADIENE  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 5.361119                              0.000001                      89,351.99

Pollutant Name : BENZENE  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 895.306924                              0.000167                      89,351.99

Pollutant Name : ACROLEIN  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 0.000000                              0.000000                      89,351.99

Pollutant Name : ACETALDEHYDE  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 0.000000                              0.000000                      89,351.99

Horizon Year\_Alt2\_corridor.ec

Total Emissions

Pollutant Name	Total Emissions (grams)	Total Emissions (Kilograms)
Total Emissions (US Tons)		
TOG	249,798.412460	249.798412
0.275355616		
S02	20,137.706100	20.137706
0.022198021		
Di esel _PM	18,330.241112	18.330241
0.020205632		
PM2.5	80,025.866658	80.025867
0.088213418		
PM10	86,815.446040	86.815446
0.095697648		
NOX	657,549.789382	657.549789
0.724824570		
FORMALDEHYDE	6,173.079822	6.173080
0.006804656		
CO2	2,097,148,507.459920	2,097,148.507460
2,311.710520461		
CO	2,999,081.064892	2,999.081065
3.305920980		
BUTADIENE	723.344189	0.723344
0.000797350		
BENZENE	4,346.478806	4.346479
0.004791173		
ACROLEIN	156.150394	0.156150
0.000172126		
ACETALDEHYDE	2,538.415025	2.538415
0.002798124		

END

Horizon Year\_Alt2\_surrounding.ec

Title : Horizon Year  
 Version : CT-EMFAC 2.6  
 Run Date : 11 October 2012 02:56 PM  
 Scen Year : 2040  
 Season : Annual  
 Temperature : 68F  
 Relative Humidity : 59%  
 Area : Orange County

Peak User Input :  
 Number of Hours : Total VMT 1402451 Volume (vph) Road Length(mi)  
 VMT Distribution(%) by Speed(mph)  
 5 10 15 20 25 30 35 40 45 50  
 55 60 65 70 >75  
 .7 3.6 5.7  
 %  
 3.8 10.5 9.2 24.4 31.7 10.1 .3

Offpeak User Input:  
 Number of Hours : Total VMT 911300 Volume (vph) Road Length(mi)  
 VMT Distribution(%) by Speed(mph)  
 5 10 15 20 25 30 35 40 45 50  
 55 60 65 70 >75  
 %  
 7.3  
 9 53.3 29.9 .5

-----  
 Runni ng Exhaust Emi ssi ons (grams)  
 -----

Poll utant Name : TOG\_exh

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.169000	0.00
0.00	0.000000	
10	0.107000	0.00
0.00	0.000000	
15	0.070000	0.00
0.00	0.000000	
20	0.050000	53,293.14
2.30	2,664.656900	
25	0.040000	147,257.36
6.36	5,890.294200	
30	0.034000	129,025.49
5.58	4,386.866728	
35	0.030000	424,215.04
18.33	12,726.451320	
40	0.027000	930,299.87
40.21	25,118.096409	
45	0.026000	414,126.25
17.90	10,767.282526	
50	0.027000	8,763.85

Horizon Year\_Alt2\_surrounding.ec

Speed (mph)	EMI (%)	Factor (grams/mile)	VMT
55	0.38	236.624031	0.00
60	0.00	0.000000	9,817.16
65	0.42	314.149024	50,488.24
70	2.18	1,969.041204	146,464.61
75	6.33	6,590.907315	0.00
	0.00	0.000000	
----- Total			2,313,751.00
	100.00	70,664.369657	

Pollutant Name : SO2

speed(mph)	EMI (%)	Factor (grams/mile)	VMT by Speed
VMT-Speed Distribution (%)		Emissions by Speed	
5	0.00	0.012000	0.00
10	0.00	0.009000	0.00
15	0.00	0.007000	0.00
20	0.00	0.006000	53,293.14
25	2.30	319.758828	147,257.36
30	6.36	736.286775	129,025.49
35	5.58	516.101968	424,215.04
40	18.33	1,696.860176	930,299.87
45	40.21	3,721.199468	414,126.25
50	17.90	1,656.505004	8,763.85
55	0.38	35.055412	0.00
60	0.00	0.000000	9,817.16
65	0.42	39.268628	50,488.24
70	2.18	252.441180	146,464.61
75	6.33	732.323035	0.00
	0.00	0.000000	
----- Total			2,313,751.00
	100.00	9,705.800474	

Pollutant Name : Diesel\_PM

speed(mph)	EMI (%)	Factor (grams/mile)	VMT by Speed
VMT-Speed Distribution (%)		Emissions by Speed	
5	0.00	0.008052	0.00
		0.000000	

Hori zon Year\_Al t2\_surroundi ng.ec

10		0.006512	0.00
0.00		0.000000	
15		0.005368	0.00
0.00		0.000000	
20		0.004532	53,293.14
2.30		241.524501	
25		0.003960	147,257.36
6.36		583.139126	
30		0.003608	129,025.49
5.58		465.523975	
35		0.003388	424,215.04
18.33		1,437.240569	
40		0.003300	930,299.87
40.21		3,069.989561	
45		0.003344	414,126.25
17.90		1,384.838183	
50		0.003476	8,763.85
0.38		30.463153	
55		0.003696	0.00
0.00		0.000000	
60		0.004004	9,817.16
0.42		39.307897	
65		0.004400	50,488.24
2.18		222.148238	
70		0.004884	146,464.61
6.33		715.333141	
75		0.005456	0.00
0.00		0.000000	
-----			
Total	100.00	8,189.508345	2,313,751.00

Pollutant Name : PM2.5

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.091000	0.00
0.00	0.000000	
10	0.060000	0.00
0.00	0.000000	
15	0.042000	0.00
0.00	0.000000	
20	0.031000	53,293.14
2.30	1,652.087278	
25	0.024000	147,257.36
6.36	3,534.176520	
30	0.019000	129,025.49
5.58	2,451.484348	
35	0.017000	424,215.04
18.33	7,211.655748	
40	0.015000	930,299.87
40.21	13,954.498005	
45	0.014000	414,126.25
17.90	5,797.767514	
50	0.014000	8,763.85
0.38	122.693942	
55	0.015000	0.00
0.00	0.000000	
60	0.017000	9,817.16
0.42	166.891669	
65	0.019000	50,488.24

Horizon Year\_Alt2\_surrounding.ec

70	2.18	0.020000	959.276484	146,464.61
75	6.33	0.020000	2,929.292140	0.00
	0.00	0.000000	0.000000	
-----				
Total	100.00		38,779.823648	2,313,751.00

Pollutant Name : PM10

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0.098000	0.000000	0.00
10	0.065000	0.000000	0.00
15	0.045000	0.000000	0.00
20	0.033000	53,293.14	53,293.14
25	1,758.673554	147,257.36	147,257.36
30	0.026000	129,025.49	129,025.49
35	3,828.691230	424,215.04	424,215.04
40	0.021000	930,299.87	930,299.87
45	2,709.535332	414,126.25	414,126.25
50	0.018000	8,763.85	8,763.85
55	7,635.870792	0.00	0.00
60	0.016000	9,817.16	9,817.16
65	0.016000	50,488.24	50,488.24
70	176.708826	146,464.61	146,464.61
75	0.021000	0.00	0.00
	3,075.756747		
	0.022000		
	0.000000		
-----			
Total	100.00	41,896.528973	2,313,751.00

Pollutant Name : NOX

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0.264000	0.000000	0.00
10	0.213000	0.000000	0.00
15	0.176000	0.000000	0.00
20	0.152000	53,293.14	53,293.14
	8,100.556976		

Horizon Year_Alt2_surrounding.ec			
25		0.139000	147,257.36
6.36		20,468.772345	
30		0.130000	129,025.49
5.58		16,773.313960	
35		0.124000	424,215.04
18.33		52,602.665456	
40		0.120000	930,299.87
40.21		111,635.984040	
45		0.120000	414,126.25
17.90		49,695.150120	
50		0.123000	8,763.85
0.38		1,077.953919	
55		0.129000	0.00
0.00		0.000000	
60		0.140000	9,817.16
0.42		1,374.401980	
65		0.158000	50,488.24
2.18		7,977.141288	
70		0.181000	146,464.61
6.33		26,510.093867	
75		0.217000	0.00
0.00		0.000000	
-----			
Total	100.00	296,216.033951	2,313,751.00

Pollutant Name : FORMALDEHYDE

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.010467	0.00
0.00	0.000000	
10	0.006184	0.00
0.00	0.000000	
15	0.003505	0.00
0.00	0.000000	
20	0.002355	53,293.14
2.30	125.505340	
25	0.001992	147,257.36
6.36	293.336651	
30	0.001712	129,025.49
5.58	220.891642	
35	0.001500	424,215.04
18.33	636.322566	
40	0.001347	930,299.87
40.21	1,253.113921	
45	0.001240	414,126.25
17.90	513.516551	
50	0.001179	8,763.85
0.38	10.332583	
55	0.001171	0.00
0.00	0.000000	
60	0.001207	9,817.16
0.42	11.849308	
65	0.001311	50,488.24
2.18	66.190077	
70	0.001455	146,464.61
6.33	213.106003	
75	0.001700	0.00
0.00	0.000000	
-----		



Speed (mph)	Year	Altitude (ft)	Surrounding Area	Value
40	0.676000			930,299.87
40.21	628,882.710092			
45	0.641000			414,126.25
17.90	265,454.926891			
50	0.616000			8,763.85
0.38	5,398.533448			
55	0.603000			0.00
0.00	0.000000			
60	0.606000			9,817.16
0.42	5,949.197142			
65	0.633000			50,488.24
2.18	31,959.053388			
70	0.721000			146,464.61
6.33	105,600.981647			
75	0.875000			0.00
0.00	0.000000			
----- Total				2,313,751.00
	100.00		1,622,355.197270	

Pollutant Name : BUTADIENE

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.000633	0.00
0.00	0.000000	
10	0.000412	0.00
0.00	0.000000	
15	0.000280	0.00
0.00	0.000000	
20	0.000207	53,293.14
2.30	11.031680	
25	0.000166	147,257.36
6.36	24.444721	
30	0.000139	129,025.49
5.58	17.934543	
35	0.000123	424,215.04
18.33	52.178450	
40	0.000115	930,299.87
40.21	106.984485	
45	0.000112	414,126.25
17.90	46.382140	
50	0.000116	8,763.85
0.38	1.016607	
55	0.000129	0.00
0.00	0.000000	
60	0.000148	9,817.16
0.42	1.452939	
65	0.000181	50,488.24
2.18	9.138371	
70	0.000217	146,464.61
6.33	31.782820	
75	0.000276	0.00
0.00	0.000000	
----- Total		
	100.00	302.346756
		2,313,751.00

Pollutant Name : BENZENE

speed(mph)		Horizon Year	Alt_surrounding.ec	VMT by Speed
speed(mph)	Emi ssi on	Factor(grams/mi le)	Emi ssi ons by Speed	
VMT-Speed	Di stri buti on (%)			
5		0.003521		0.00
0.00		0.000000		
10		0.002238		0.00
0.00		0.000000		
15		0.001463		0.00
0.00		0.000000		
20		0.001058		53,293.14
2.30		56.384140		
25		0.000856		147,257.36
6.36		126.052296		
30		0.000719		129,025.49
5.58		92.769329		
35		0.000633		424,215.04
18.33		268.528123		
40		0.000586		930,299.87
40.21		545.155722		
45		0.000564		414,126.25
17.90		233.567206		
50		0.000576		8,763.85
0.38		5.047979		
55		0.000627		0.00
0.00		0.000000		
60		0.000707		9,817.16
0.42		6.940730		
65		0.000846		50,488.24
2.18		42.713048		
70		0.001001		146,464.61
6.33		146.611072		
75		0.001254		0.00
0.00		0.000000		
-----				
Total				2,313,751.00
	100.00		1,523.769644	

Pollutant Name : ACROLEIN

speed(mph)		Horizon Year	Alt_surrounding.ec	VMT by Speed
speed(mph)	Emi ssi on	Factor(grams/mi le)	Emi ssi ons by Speed	
VMT-Speed	Di stri buti on (%)			
5		0.000124		0.00
0.00		0.000000		
10		0.000083		0.00
0.00		0.000000		
15		0.000058		0.00
0.00		0.000000		
20		0.000044		53,293.14
2.30		2.344898		
25		0.000035		147,257.36
6.36		5.154007		
30		0.000029		129,025.49
5.58		3.741739		
35		0.000026		424,215.04
18.33		11.029591		
40		0.000024		930,299.87
40.21		22.327197		
45		0.000024		414,126.25
17.90		9.939030		
50		0.000025		8,763.85
0.38		0.219096		

		Horizon Year	Alt2_surrounding.ec	
55	0.00	0.000028	0.000000	0.00
60	0.42	0.000032	0.314149	9,817.16
65	2.18	0.000040	2.019529	50,488.24
70	6.33	0.000048	7.030301	146,464.61
75	0.00	0.000061	0.000000	0.00
-----				
Total	100.00	64.119539		2,313,751.00

Pollutant Name : ACETALDEHYDE

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0.00	0.004771	0.00
10	0.00	0.002785	0.00
15	0.00	0.001537	0.00
20	2.30	0.001017	53,293.14
25	6.36	54.199121	147,257.36
30	5.58	0.000869	129,025.49
35	18.33	127.966641	129,025.49
40	40.21	0.000751	424,215.04
45	17.90	96.898144	424,215.04
50	0.38	0.000658	930,299.87
55	0.00	279.133499	930,299.87
60	0.42	0.000587	414,126.25
65	2.18	546.086022	414,126.25
70	6.33	0.000536	8,763.85
75	0.00	221.971671	8,763.85
-----			
Total	100.00	1,443.821235	2,313,751.00

-----  
 Idling Emi ssi ons (grams) (Currentl y NOT Avai labl e)  
 -----

Horizon Year\_Alt2\_surrounding.ec

-----  
Evaporative Running Loss Emissions (grams)  
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-----  
Pollutant Name : TOG\_Ios  
Emission Factor(grams/min)      total running time(hrs)  
Emissions  
61,857.413336                      0.017000                      60,644.52

Pollutant Name : FORMALDEHYDE  
Emission Factor(grams/min)      total running time(hrs)  
Emissions  
0.000000                      0.000000                      60,644.52

Pollutant Name : BUTADIENE  
Emission Factor(grams/min)      total running time(hrs)  
Emissions  
3.638671                      0.000001                      60,644.52

Pollutant Name : BENZENE  
Emission Factor(grams/min)      total running time(hrs)  
Emissions  
607.658119                      0.000167                      60,644.52

Pollutant Name : ACROLEIN  
Emission Factor(grams/min)      total running time(hrs)  
Emissions  
0.000000                      0.000000                      60,644.52

Pollutant Name : ACETALDEHYDE  
Emission Factor(grams/min)      total running time(hrs)  
Emissions  
0.000000                      0.000000                      60,644.52  
-----

Hori zon Year\_AI t2\_surroundi ng. ec

Total Emi ssi ons

Pollutant Name Total Emi ssi ons (US Tons)	Total Emi ssi ons (grams)	Total Emi ssi ons (Ki l ograms)
TOG 0. 146080260	132, 521. 782993	132. 521783
S02 0. 010698814	9, 705. 800474	9. 705800
Di esel _PM 0. 009027388	8, 189. 508345	8. 189508
PM2. 5 0. 042747438	38, 779. 823648	38. 779824
PM10 0. 046183018	41, 896. 528973	41. 896529
NOX 0. 326522285	296, 216. 033951	296. 216034
FORMALDEHYDE 0. 003686311	3, 344. 164643	3. 344165
CO2 1, 092. 042550643	990, 684, 337. 374064	990, 684. 337374
CO 1. 788340484	1, 622, 355. 197270	1, 622. 355197
BUTADI ENE 0. 000337291	305. 985427	0. 305985
BENZENE 0. 002349497	2, 131. 427763	2. 131428
ACROLEI N 0. 000070680	64. 119539	0. 064120
ACETALDEHYDE 0. 001591540	1, 443. 821235	1. 443821

END

Horizon Year\_Alt3\_corridor.ec

Title : Horizon Year  
 Version : CT-EMFAC 2.6  
 Run Date : 11 October 2012 02:58 PM  
 Scen Year : 2040  
 Season : Annual  
 Temperature : 68F  
 Relative Humidity : 59%  
 Area : Orange County

Peak User Input :  
 Total VMT : 2087345  
 Volume (vph) :  
 Road Length(mi) :

		VMT Distribution(%) by Speed(mph)									
		5	10	15	20	25	30	35	40	45	50
55	60	65	70	>75							
12.7	14.5	16.4	1.2								

Offpeak User Input:  
 Total VMT : 2459982  
 Volume (vph) :  
 Road Length(mi) :

		VMT Distribution(%) by Speed(mph)									
		5	10	15	20	25	30	35	40	45	50
55	60	65	70	>75							
12	8.7	32.2	33.7								

-----  
 Running Exhaust Emissions (grams)  
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Pollutant Name : TOG\_exh

speed(mph)	Emission Factor(grams/mile)	VMT by Speed
VMT-Speed Distribution (%)		Emissions by Speed
5	0.169000	4,174.69
0.09	705.522610	
10	0.107000	17,071.40
0.38	1,826.639479	
15	0.070000	12,896.71
0.28	902.769490	
20	0.050000	19,531.38
0.43	976.568950	
25	0.040000	63,738.26
1.40	2,549.530440	
30	0.034000	191,811.58
4.22	6,521.593720	
35	0.030000	354,321.76
7.79	10,629.652740	
40	0.027000	72,460.28
1.59	1,956.427506	
45	0.026000	249,511.97
5.49	6,487.311116	
50	0.027000	496,334.01

Horizon Year\_Alt3\_corridor.ec

Speed (mph)	EMISSION FACTOR (grams/mile)	EMISSIONS	VMT
10.91	13,401.018324		
55	0.029000		560,290.66
12.32	16,248.428995		
60	0.032000		516,683.46
11.36	16,533.870688		
65	0.039000		1,134,438.78
24.95	44,243.112576		
70	0.045000		854,062.07
18.78	38,432.793330		
75	0.056000		0.00
0.00	0.000000		
-----			
Total	100.00	161,415.239964	4,547,327.00

Pollutant Name : SO2

speed(mph)	EMISSION FACTOR(grams/mile)	EMISSIONS	VMT by Speed
VMT-Speed Distribution (%)		EMISSIONS by Speed	
5	0.012000		4,174.69
0.09	50.096280		
10	0.009000		17,071.40
0.38	153.642573		
15	0.007000		12,896.71
0.28	90.276949		
20	0.006000		19,531.38
0.43	117.188274		
25	0.005000		63,738.26
1.40	318.691305		
30	0.004000		191,811.58
4.22	767.246320		
35	0.004000		354,321.76
7.79	1,417.287032		
40	0.004000		72,460.28
1.59	289.841112		
45	0.004000		249,511.97
5.49	998.047864		
50	0.004000		496,334.01
10.91	1,985.336048		
55	0.004000		560,290.66
12.32	2,241.162620		
60	0.004000		516,683.46
11.36	2,066.733836		
65	0.005000		1,134,438.78
24.95	5,672.193920		
70	0.005000		854,062.07
18.78	4,270.310370		
75	0.005000		0.00
0.00	0.000000		
-----			
Total	100.00	20,438.054503	4,547,327.00

Pollutant Name : Diesel\_PM

speed(mph)	EMISSION FACTOR(grams/mile)	EMISSIONS	VMT by Speed
VMT-Speed Distribution (%)		EMISSIONS by Speed	
5	0.008052		4,174.69
0.09	33.614604		

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10		0.006512	17,071.40
0.38		111.168937	
15		0.005368	12,896.71
0.28		69.229523	
20		0.004532	19,531.38
0.43		88.516210	
25		0.003960	63,738.26
1.40		252.403514	
30		0.003608	191,811.58
4.22		692.056181	
35		0.003388	354,321.76
7.79		1,200.442116	
40		0.003300	72,460.28
1.59		239.118917	
45		0.003344	249,511.97
5.49		834.368014	
50		0.003476	496,334.01
10.91		1,725.257026	
55		0.003696	560,290.66
12.32		2,070.834261	
60		0.004004	516,683.46
11.36		2,068.800570	
65		0.004400	1,134,438.78
24.95		4,991.530650	
70		0.004884	854,062.07
18.78		4,171.239169	
75		0.005456	0.00
0.00		0.000000	
-----			
Total	100.00	18,548.579691	4,547,327.00

Pollutant Name : PM2.5

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.091000	4,174.69
0.09	379.896790	
10	0.060000	17,071.40
0.38	1,024.283820	
15	0.042000	12,896.71
0.28	541.661694	
20	0.031000	19,531.38
0.43	605.472749	
25	0.024000	63,738.26
1.40	1,529.718264	
30	0.019000	191,811.58
4.22	3,644.420020	
35	0.017000	354,321.76
7.79	6,023.469886	
40	0.015000	72,460.28
1.59	1,086.904170	
45	0.014000	249,511.97
5.49	3,493.167524	
50	0.014000	496,334.01
10.91	6,948.676168	
55	0.015000	560,290.66
12.32	8,404.359825	
60	0.017000	516,683.46
11.36	8,783.618803	
65	0.019000	1,134,438.78

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24.95	21,554.336896	
70	0.020000	854,062.07
18.78	17,081.241480	
75	0.020000	0.00
0.00	0.000000	
-----		
Total	81,101.228089	4,547,327.00
100.00		

Pollutant Name : PM10

speed(mph)	Emi ssi on Factor(grams/mi l e)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.098000	4,174.69
0.09	409.119620	
10	0.065000	17,071.40
0.38	1,109.640805	
15	0.045000	12,896.71
0.28	580.351815	
20	0.033000	19,531.38
0.43	644.535507	
25	0.026000	63,738.26
1.40	1,657.194786	
30	0.021000	191,811.58
4.22	4,028.043180	
35	0.018000	354,321.76
7.79	6,377.791644	
40	0.016000	72,460.28
1.59	1,159.364448	
45	0.016000	249,511.97
5.49	3,992.191456	
50	0.016000	496,334.01
10.91	7,941.344192	
55	0.016000	560,290.66
12.32	8,964.650480	
60	0.018000	516,683.46
11.36	9,300.302262	
65	0.021000	1,134,438.78
24.95	23,823.214464	
70	0.021000	854,062.07
18.78	17,935.303554	
75	0.022000	0.00
0.00	0.000000	
-----		
Total	87,923.048213	4,547,327.00
100.00		

Pollutant Name : NOX

speed(mph)	Emi ssi on Factor(grams/mi l e)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.264000	4,174.69
0.09	1,102.118160	
10	0.213000	17,071.40
0.38	3,636.207561	
15	0.176000	12,896.71
0.28	2,269.820432	
20	0.152000	19,531.38
0.43	2,968.769608	
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25		0.139000	63,738.26
1.40		8,859.618279	
30		0.130000	191,811.58
4.22		24,935.505400	
35		0.124000	354,321.76
7.79		43,935.897992	
40		0.120000	72,460.28
1.59		8,695.233360	
45		0.120000	249,511.97
5.49		29,941.435920	
50		0.123000	496,334.01
10.91		61,049.083476	
55		0.129000	560,290.66
12.32		72,277.494495	
60		0.140000	516,683.46
11.36		72,335.684260	
65		0.158000	1,134,438.78
24.95		179,241.327872	
70		0.181000	854,062.07
18.78		154,585.235394	
75		0.217000	0.00
0.00		0.000000	
-----			
Total	100.00	665,833.432209	4,547,327.00

Pollutant Name : FORMALDEHYDE

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.010467	4,174.69
0.09	43.696480	
10	0.006184	17,071.40
0.38	105.569519	
15	0.003505	12,896.71
0.28	45.202958	
20	0.002355	19,531.38
0.43	45.996398	
25	0.001992	63,738.26
1.40	126.966616	
30	0.001712	191,811.58
4.22	328.381425	
35	0.001500	354,321.76
7.79	531.482637	
40	0.001347	72,460.28
1.59	97.603994	
45	0.001240	249,511.97
5.49	309.394838	
50	0.001179	496,334.01
10.91	585.177800	
55	0.001171	560,290.66
12.32	656.100357	
60	0.001207	516,683.46
11.36	623.636935	
65	0.001311	1,134,438.78
24.95	1,487.249246	
70	0.001455	854,062.07
18.78	1,242.660318	
75	0.001700	0.00
0.00	0.000000	
-----		



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40		0.676000	72,460.28
1.59		48,983.147928	
45		0.641000	249,511.97
5.49		159,937.170206	
50		0.616000	496,334.01
10.91		305,741.751392	
55		0.603000	560,290.66
12.32		337,855.264965	
60		0.606000	516,683.46
11.36		313,110.176154	
65		0.633000	1,134,438.78
24.95		718,099.750272	
70		0.721000	854,062.07
18.78		615,778.755354	
75		0.875000	0.00
0.00		0.000000	
-----			
Total	100.00	3,014,398.090065	4,547,327.00

Pollutant Name : BUTADIENE

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0.000633	4,174.69	
0.09	2.642579		
10	0.000412	17,071.40	
0.38	7.033416		
15	0.000280	12,896.71	
0.28	3.611078		
20	0.000207	19,531.38	
0.43	4.042995		
25	0.000166	63,738.26	
1.40	10.580551		
30	0.000139	191,811.58	
4.22	26.661810		
35	0.000123	354,321.76	
7.79	43.581576		
40	0.000115	72,460.28	
1.59	8.332932		
45	0.000112	249,511.97	
5.49	27.945340		
50	0.000116	496,334.01	
10.91	57.574745		
55	0.000129	560,290.66	
12.32	72.277494		
60	0.000148	516,683.46	
11.36	76.469152		
65	0.000181	1,134,438.78	
24.95	205.333420		
70	0.000217	854,062.07	
18.78	185.331470		
75	0.000276	0.00	
0.00	0.000000		
-----			
Total	100.00	731.418559	4,547,327.00

Pollutant Name : BENZENE

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speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0.003521		4,174.69
0.09	14.699083		
10	0.002238		17,071.40
0.38	38.205786		
15	0.001463		12,896.71
0.28	18.867882		
20	0.001058		19,531.38
0.43	20.664199		
25	0.000856		63,738.26
1.40	54.559951		
30	0.000719		191,811.58
4.22	137.912526		
35	0.000633		354,321.76
7.79	224.285673		
40	0.000586		72,460.28
1.59	42.461723		
45	0.000564		249,511.97
5.49	140.724749		
50	0.000576		496,334.01
10.91	285.888391		
55	0.000627		560,290.66
12.32	351.302241		
60	0.000707		516,683.46
11.36	365.295206		
65	0.000846		1,134,438.78
24.95	959.735211		
70	0.001001		854,062.07
18.78	854.916136		
75	0.001254		0.00
0.00	0.000000		
-----			
Total			4,547,327.00
	100.00	3,509.518758	

Pollutant Name : ACROLEIN

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0.000124		4,174.69
0.09	0.517662		
10	0.000083		17,071.40
0.38	1.416926		
15	0.000058		12,896.71
0.28	0.748009		
20	0.000044		19,531.38
0.43	0.859381		
25	0.000035		63,738.26
1.40	2.230839		
30	0.000029		191,811.58
4.22	5.562536		
35	0.000026		354,321.76
7.79	9.212366		
40	0.000024		72,460.28
1.59	1.739047		
45	0.000024		249,511.97
5.49	5.988287		
50	0.000025		496,334.01
10.91	12.408350		

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55	0.00028	560,290.66
12.32	15.688138	
60	0.00032	516,683.46
11.36	16.533871	
65	0.00040	1,134,438.78
24.95	45.377551	
70	0.00048	854,062.07
18.78	40.994980	
75	0.00061	0.00
0.00	0.000000	
-----		
Total		4,547,327.00
100.00	159.277942	

Pollutant Name : ACETALDEHYDE

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.004771	4,174.69
0.09	19.917446	
10	0.002785	17,071.40
0.38	47.543841	
15	0.001537	12,896.71
0.28	19.822239	
20	0.001017	19,531.38
0.43	19.863412	
25	0.000869	63,738.26
1.40	55.388549	
30	0.000751	191,811.58
4.22	144.050497	
35	0.000658	354,321.76
7.79	233.143717	
40	0.000587	72,460.28
1.59	42.534183	
45	0.000536	249,511.97
5.49	133.738414	
50	0.000501	496,334.01
10.91	248.663340	
55	0.000487	560,290.66
12.32	272.861549	
60	0.000490	516,683.46
11.36	253.174895	
65	0.000516	1,134,438.78
24.95	585.370413	
70	0.000562	854,062.07
18.78	479.982886	
75	0.000642	0.00
0.00	0.000000	
-----		
Total		4,547,327.00
100.00	2,556.055379	

Idling Emi ssi ons (grams) (Currentl y NOT Avai l abl e)

-----  
 Evaporative Running Loss Emissions (grams)  
 -----

Pollutant Name : TOG\_Ios  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 90,963.944941                      0.017000                      89,180.34

Pollutant Name : FORMALDEHYDE  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 0.000000                              0.000000                      89,180.34

Pollutant Name : BUTADIENE  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 5.350820                              0.000001                      89,180.34

Pollutant Name : BENZENE  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 893.586989                            0.000167                      89,180.34

Pollutant Name : ACROLEIN  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 0.000000                              0.000000                      89,180.34

Pollutant Name : ACETALDEHYDE  
 Emission Factor(grams/min)      total running time(hrs)  
 Emissions  
 0.000000                              0.000000                      89,180.34

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Total Emissions

Pollutant Name	Total Emissions (grams)	Total Emissions (Kilograms)
Total Emissions (US Tons)		
TOG	252,379.184905	252.379185
0.278200430		
S02	20,438.054503	20.438055
0.022529099		
Di esel _PM	18,548.579691	18.548580
0.020446309		
PM2.5	81,101.228089	81.101228
0.089398801		
PM10	87,923.048213	87.923048
0.096918571		
NOX	665,833.432209	665.833432
0.733955724		
FORMALDEHYDE	6,229.119521	6.229120
0.006866429		
C02	2,123,085.954046	2,123.085954
2,340.301661209		
CO	3,014.398090	3.014398
3.322805110		
BUTADIENE	736.769379	0.736769
0.000812149		
BENZENE	4,403.105746	4.403106
0.004853593		
ACROLEIN	159.277942	0.159278
0.000175574		
ACETALDEHYDE	2,556.055379	2.556055
0.002817569		

END

Horizon Year\_Alt3\_surrounding.ec

Title : Horizon Year  
 Version : CT-EMFAC 2.6  
 Run Date : 11 October 2012 03:00 PM  
 Scen Year : 2040  
 Season : Annual  
 Temperature : 68F  
 Relative Humidity : 59%  
 Area : Orange County

Peak User Input :  
 Total VMT : 1396310  
 Volume (vph) :  
 Road Length(mi) :

		VMT Distribution(%) by Speed(mph)									
		5	10	15	20	25	30	35	40	45	50
55	60	65	70	>75							
	.8	2.5	6.8		.1	2.9	11	9	24.4	31.3	10.9
Offpeak User Input:											

Number of Hours : 908352

		VMT Distribution(%) by Speed(mph)									
		5	10	15	20	25	30	35	40	45	50
55	60	65	70	>75							
			7.2					9.2	53	30.1	.5

-----  
 Running Exhaust Emissions (grams)  
 -----

Pollutant Name : TOG\_exh

speed(mph)	Emission Factor(grams/mile)	VMT by Speed
VMT-Speed Distribution (%)	Emissions by Speed	
5	0.169000	0.00
0.00	0.000000	
10	0.107000	0.00
0.00	0.000000	
15	0.070000	1,396.31
0.06	97.741700	
20	0.050000	40,492.99
1.76	2,024.649500	
25	0.040000	153,594.10
6.66	6,143.764000	
30	0.034000	125,667.90
5.45	4,272.708600	
35	0.030000	424,268.02
18.41	12,728.040720	
40	0.027000	918,471.59
39.85	24,798.732930	
45	0.026000	425,611.74
18.47	11,065.905292	
50	0.027000	8,730.69

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	0.38	235.728630	
55		0.029000	0.00
	0.00	0.000000	
60		0.032000	11,170.48
	0.48	357.455360	
65		0.039000	34,907.75
	1.51	1,361.402250	
70		0.045000	160,350.42
	6.96	7,215.769080	
75		0.056000	0.00
	0.00	0.000000	
-----			
Total	100.00	70,301.898062	2,304,662.00

Pollutant Name : SO2

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed	
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed		
5	0.012000		0.00
	0.000000		
10	0.009000		0.00
	0.000000		
15	0.007000		1,396.31
	9.774170		
20	0.006000		40,492.99
	242.957940		
25	0.005000		153,594.10
	767.970500		
30	0.004000		125,667.90
	502.671600		
35	0.004000		424,268.02
	1,697.072096		
40	0.004000		918,471.59
	3,673.886360		
45	0.004000		425,611.74
	1,702.446968		
50	0.004000		8,730.69
	34.922760		
55	0.004000		0.00
	0.000000		
60	0.004000		11,170.48
	44.681920		
65	0.005000		34,907.75
	174.538750		
70	0.005000		160,350.42
	801.752120		
75	0.005000		0.00
	0.000000		
-----			
Total	100.00	9,652.675184	2,304,662.00

Pollutant Name : Diesel\_PM

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed	
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed		
5	0.008052		0.00
	0.000000		

Horizon Year\_Alt3\_surrounding.ec

10		0.006512	0.00
0.00		0.000000	
15		0.005368	1,396.31
0.06		7.495392	
20		0.004532	40,492.99
1.76		183.514231	
25		0.003960	153,594.10
6.66		608.232636	
30		0.003608	125,667.90
5.45		453.409783	
35		0.003388	424,268.02
18.41		1,437.420065	
40		0.003300	918,471.59
39.85		3,030.956247	
45		0.003344	425,611.74
18.47		1,423.245665	
50		0.003476	8,730.69
0.38		30.347878	
55		0.003696	0.00
0.00		0.000000	
60		0.004004	11,170.48
0.48		44.726602	
65		0.004400	34,907.75
1.51		153.594100	
70		0.004884	160,350.42
6.96		783.151471	
75		0.005456	0.00
0.00		0.000000	
-----			
Total	100.00	8,156.094071	2,304,662.00

Pollutant Name : PM2.5

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.091000	0.00
0.00	0.000000	
10	0.060000	0.00
0.00	0.000000	
15	0.042000	1,396.31
0.06	58.645020	
20	0.031000	40,492.99
1.76	1,255.282690	
25	0.024000	153,594.10
6.66	3,686.258400	
30	0.019000	125,667.90
5.45	2,387.690100	
35	0.017000	424,268.02
18.41	7,212.556408	
40	0.015000	918,471.59
39.85	13,777.073850	
45	0.014000	425,611.74
18.47	5,958.564388	
50	0.014000	8,730.69
0.38	122.229660	
55	0.015000	0.00
0.00	0.000000	
60	0.017000	11,170.48
0.48	189.898160	
65	0.019000	34,907.75

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70	1.51	663.247250	160,350.42
	0.020000		
75	6.96	3,207.008480	0.00
	0.020000		
	0.00	0.000000	
-----			
Total	100.00	38,518.454406	2,304,662.00

Pollutant Name : PM10

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0.098000	0.000000	0.00
	0.00	0.000000	
10	0.065000	0.000000	0.00
	0.00	0.000000	
15	0.045000	1,396.31	
	0.06	62.833950	
20	0.033000	40,492.99	
	1.76	1,336.268670	
25	0.026000	153,594.10	
	6.66	3,993.446600	
30	0.021000	125,667.90	
	5.45	2,639.025900	
35	0.018000	424,268.02	
	18.41	7,636.824432	
40	0.016000	918,471.59	
	39.85	14,695.545440	
45	0.016000	425,611.74	
	18.47	6,809.787872	
50	0.016000	8,730.69	
	0.38	139.691040	
55	0.016000	0.00	
	0.00	0.000000	
60	0.018000	11,170.48	
	0.48	201.068640	
65	0.021000	34,907.75	
	1.51	733.062750	
70	0.021000	160,350.42	
	6.96	3,367.358904	
75	0.022000	0.00	
	0.00	0.000000	
-----			
Total	100.00	41,614.914198	2,304,662.00

Pollutant Name : NOX

speed(mph)	Emi ssi on Factor(grams/mi le)	Emi ssi ons by Speed	VMT by Speed
VMT-Speed Di stri buti on (%)			
5	0.264000	0.00	
	0.00	0.000000	
10	0.213000	0.00	
	0.00	0.000000	
15	0.176000	1,396.31	
	0.06	245.750560	
20	0.152000	40,492.99	
	1.76	6,154.934480	

Horizon Year_Alt3_surrounding.ec		
25		0.139000
6.66		21,349.579900
30		0.130000
5.45		16,336.827000
35		0.124000
18.41		52,609.234976
40		0.120000
39.85		110,216.590800
45		0.120000
18.47		51,073.409040
50		0.123000
0.38		1,073.874870
55		0.129000
0.00		0.000000
60		0.140000
0.48		1,563.867200
65		0.158000
1.51		5,515.424500
70		0.181000
6.96		29,023.426744
75		0.217000
0.00		0.000000
-----		
Total	100.00	295,162.920070
		2,304,662.00

Pollutant Name : FORMALDEHYDE

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	0.010467	0.00
0.00	0.000000	
10	0.006184	0.00
0.00	0.000000	
15	0.003505	1,396.31
0.06	4.894067	
20	0.002355	40,492.99
1.76	95.360991	
25	0.001992	153,594.10
6.66	305.959447	
30	0.001712	125,667.90
5.45	215.143445	
35	0.001500	424,268.02
18.41	636.402036	
40	0.001347	918,471.59
39.85	1,237.181232	
45	0.001240	425,611.74
18.47	527.758560	
50	0.001179	8,730.69
0.38	10.293484	
55	0.001171	0.00
0.00	0.000000	
60	0.001207	11,170.48
0.48	13.482769	
65	0.001311	34,907.75
1.51	45.764060	
70	0.001455	160,350.42
6.96	233.309867	
75	0.001700	0.00
0.00	0.000000	
-----		

Hori zon Year\_Alt3\_surroundi ng.ec

Total	100.00	3, 325. 549958	2, 304, 662. 00
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Pollutant Name : C02

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	1, 232. 163000	0. 00
0. 00	0. 000000	
10	935. 946000	0. 00
0. 00	0. 000000	
15	738. 149000	1, 396. 31
0. 06	1, 030, 684. 830190	
20	604. 949000	40, 492. 99
1. 76	24, 496, 193. 807510	
25	517. 903000	153, 594. 10
6. 66	79, 546, 845. 172300	
30	459. 353000	125, 667. 90
5. 45	57, 725, 926. 868700	
35	421. 611000	424, 268. 02
18. 41	178, 876, 065. 866664	
40	400. 126000	918, 471. 59
39. 85	367, 504, 363. 420340	
45	392. 485000	425, 611. 74
18. 47	167, 046, 224. 558870	
50	397. 919000	8, 730. 69
0. 38	3, 474, 107. 434110	
55	417. 145000	0. 00
0. 00	0. 000000	
60	452. 516000	11, 170. 48
0. 48	5, 054, 820. 927680	
65	508. 510000	34, 907. 75
1. 51	17, 750, 939. 952500	
70	516. 703000	160, 350. 42
6. 96	82, 853, 545. 132072	
75	529. 630000	0. 00
0. 00	0. 000000	
<hr style="border-top: 1px dashed black;"/>		
Total	985, 359, 717. 970936	2, 304, 662. 00

Pollutant Name : C0

speed(mph)	Emi ssi on Factor(grams/mi le)	VMT by Speed
VMT-Speed Di stri buti on (%)	Emi ssi ons by Speed	
5	1. 359000	0. 00
0. 00	0. 000000	
10	1. 170000	0. 00
0. 00	0. 000000	
15	1. 028000	1, 396. 31
0. 06	1, 435. 406680	
20	0. 922000	40, 492. 99
1. 76	37, 334. 536780	
25	0. 842000	153, 594. 10
6. 66	129, 326. 232200	
30	0. 776000	125, 667. 90
5. 45	97, 518. 290400	
35	0. 721000	424, 268. 02
18. 41	305, 897. 245304	

Speed (mph)	EMISSION FACTOR (grams/mile)	Year	Surrounding Area	Value
40	0.676000	2013	ec	918,471.59
39.85	620,886.794840			
45	0.641000			425,611.74
18.47	272,817.126622			
50	0.616000			8,730.69
0.38	5,378.105040			
55	0.603000			0.00
0.00	0.000000			
60	0.606000			11,170.48
0.48	6,769.310880			
65	0.633000			34,907.75
1.51	22,096.605750			
70	0.721000			160,350.42
6.96	115,612.655704			
75	0.875000			0.00
0.00	0.000000			
----- Total				2,304,662.00
	100.00		1,615,072.310200	

Pollutant Name : BUTADIENE

speed(mph)	EMISSION FACTOR (grams/mile)	Year	Surrounding Area	Value
5	0.000633			0.00
0.00	0.000000			
10	0.000412			0.00
0.00	0.000000			
15	0.000280			1,396.31
0.06	0.390967			
20	0.000207			40,492.99
1.76	8.382049			
25	0.000166			153,594.10
6.66	25.496621			
30	0.000139			125,667.90
5.45	17.467838			
35	0.000123			424,268.02
18.41	52.184967			
40	0.000115			918,471.59
39.85	105.624233			
45	0.000112			425,611.74
18.47	47.668515			
50	0.000116			8,730.69
0.38	1.012760			
55	0.000129			0.00
0.00	0.000000			
60	0.000148			11,170.48
0.48	1.653231			
65	0.000181			34,907.75
1.51	6.318303			
70	0.000217			160,350.42
6.96	34.796042			
75	0.000276			0.00
0.00	0.000000			
----- Total				2,304,662.00
	100.00		300.995525	

Pollutant Name : BENZENE

speed(mph)		Horizon Year	Alt3_surrounding.ec	VTM by Speed
VTM-Speed	Distribution (%)	Factor(grams/mile)	Emissions by Speed	
5		0.003521		0.00
0.00		0.000000		
10		0.002238		0.00
0.00		0.000000		
15		0.001463		1,396.31
0.06		2.042802		
20		0.001058		40,492.99
1.76		42.841583		
25		0.000856		153,594.10
6.66		131.476550		
30		0.000719		125,667.90
5.45		90.355220		
35		0.000633		424,268.02
18.41		268.561659		
40		0.000586		918,471.59
39.85		538.224352		
45		0.000564		425,611.74
18.47		240.045022		
50		0.000576		8,730.69
0.38		5.028877		
55		0.000627		0.00
0.00		0.000000		
60		0.000707		11,170.48
0.48		7.897529		
65		0.000846		34,907.75
1.51		29.531957		
70		0.001001		160,350.42
6.96		160.510774		
75		0.001254		0.00
0.00		0.000000		
-----				
Total	100.00	1,516.516326		2,304,662.00

Pollutant Name : ACROLEIN

speed(mph)		Horizon Year	Alt3_surrounding.ec	VTM by Speed
VTM-Speed	Distribution (%)	Factor(grams/mile)	Emissions by Speed	
5		0.000124		0.00
0.00		0.000000		
10		0.000083		0.00
0.00		0.000000		
15		0.000058		1,396.31
0.06		0.080986		
20		0.000044		40,492.99
1.76		1.781692		
25		0.000035		153,594.10
6.66		5.375794		
30		0.000029		125,667.90
5.45		3.644369		
35		0.000026		424,268.02
18.41		11.030969		
40		0.000024		918,471.59
39.85		22.043318		
45		0.000024		425,611.74
18.47		10.214682		
50		0.000025		8,730.69
0.38		0.218267		

Speed (mph)	EMI (%)	Horizon Year	Alt3_surrounding.ec	EMI (%)	VMT
55	0.00	0.000028		0.00	
60	0.48	0.000032		11,170.48	
65	1.51	0.000040		34,907.75	
70	6.96	0.000048		160,350.42	
75	0.00	0.000061		0.00	
-----					
Total	100.00	63.840662			2,304,662.00

Pollutant Name : ACETALDEHYDE

speed(mph)	EMI (%)	EMI Factor (grams/mile)	EMI by Speed	VMT by Speed
5	0.00	0.004771	0.000000	0.00
10	0.00	0.002785	0.000000	0.00
15	0.06	0.001537	2.146128	1,396.31
20	1.76	0.001017	41.181371	40,492.99
25	6.66	0.000869	133.473273	153,594.10
30	5.45	0.000751	94.376593	125,667.90
35	18.41	0.000658	279.168360	424,268.02
40	39.85	0.000587	539.142823	918,471.59
45	18.47	0.000536	228.127894	425,611.74
50	0.38	0.000501	4.374076	8,730.69
55	0.00	0.000487	0.000000	0.00
60	0.48	0.000490	5.473535	11,170.48
65	1.51	0.000516	18.012399	34,907.75
70	6.96	0.000562	90.116938	160,350.42
75	0.00	0.000642	0.000000	0.00
-----				
Total	100.00	1,435.593390		2,304,662.00

-----  
 Idling Emissions (grams) (Currently NOT Available)  
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Horizon Year\_Alt3\_surrounding.ec

-----  
Evaporative Running Loss Emissions (grams)  
-----

Pollutant Name : TOG\_Ios  
Emission Factor(grams/min)      total running time(hrs)  
Emissions  
61,384.369034                      0.017000                      60,180.75

Pollutant Name : FORMALDEHYDE  
Emission Factor(grams/min)      total running time(hrs)  
Emissions  
0.000000                      0.000000                      60,180.75

Pollutant Name : BUTADIENE  
Emission Factor(grams/min)      total running time(hrs)  
Emissions  
3.610845                      0.000001                      60,180.75

Pollutant Name : BENZENE  
Emission Factor(grams/min)      total running time(hrs)  
Emissions  
603.011155                      0.000167                      60,180.75

Pollutant Name : ACROLEIN  
Emission Factor(grams/min)      total running time(hrs)  
Emissions  
0.000000                      0.000000                      60,180.75

Pollutant Name : ACETALDEHYDE  
Emission Factor(grams/min)      total running time(hrs)  
Emissions  
0.000000                      0.000000                      60,180.75  
-----

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Total Emissions

Pollutant Name	Total Emissions (grams)	Total Emissions (Kilograms)
Total Emissions (US Tons)		
TOG	131,686.267096	131.686267
0.145159262		
S02	9,652.675184	9.652675
0.010640253		
Di esel _PM	8,156.094071	8.156094
0.008990555		
PM2.5	38,518.454406	38.518454
0.042459328		
PM10	41,614.914198	41.614914
0.045872591		
NOX	295,162.920070	295.162920
0.325361425		
FORMALDEHYDE	3,325.549958	3.325550
0.003665791		
CO2	985,359,717.970936	985,359.717971
1,086.173162449		
CO	1,615,072.310200	1,615.072310
1.780312475		
BUTADIENE	304.606370	0.304606
0.000335771		
BENZENE	2,119.527480	2.119527
0.002336379		
ACROLEIN	63.840662	0.063841
0.000070372		
ACETALDEHYDE	1,435.593390	1.435593
0.001582471		

END

## Road Dust Calculations

$$E = (k \cdot (sL/2)^{0.65} \cdot (W/3)^{1.5}) \cdot (1 - P/4N)$$

	PM <sub>10</sub>	PM <sub>2.5</sub>	
E =			emission factor
k =	0.0022	0.00054	particle size multiplier
sL =	0.03	0.03	surface silt loading
W =	2.7	2.7	average vehicle weight (tons)
P =	40	40	Number of days per year with >0.01 inches of rain
N =	365	365	Days per period

Scenario		Daily VMT	PM <sub>10</sub> Emission Factor	PM <sub>2.5</sub> Emissions Factor	Road Dust Emissions (lbs/day)	
					PM <sub>10</sub>	PM <sub>2.5</sub>
Existing	Project Corridor	3,580,844	0.00024	0.00006	867.99	213.05
	Surrounding Area	1,885,658	0.00024	0.00006	457.08	112.19
Alternative 1 (2022 No Build)	Project Corridor	3,879,771	0.00024	0.00006	940.45	230.84
	Surrounding Area	2,048,771	0.00024	0.00006	496.62	121.90
Alternative 2 (2022 Build)	Project Corridor	3,905,269	0.00024	0.00006	946.63	232.35
	Surrounding Area	2,032,495	0.00024	0.00006	492.67	120.93
Alternative 3 (2022 Build)	Project Corridor	3,912,348	0.00024	0.00006	948.35	232.78
	Surrounding Area	2,029,377	0.00024	0.00006	491.92	120.74
Alternative 1 (2045 No Build)	Project Corridor	4,452,351	0.00024	0.00006	1,079.24	264.90
	Surrounding Area	2,361,206	0.00024	0.00006	572.35	140.49
Alternative 2 (2045 Build)	Project Corridor	4,526,686	0.00024	0.00006	1,097.26	269.33
	Surrounding Area	2,313,751	0.00024	0.00006	560.85	137.66
Alternative 3 (2045 Build)	Project Corridor	4,547,327	0.00024	0.00006	1,102.26	270.56
	Surrounding Area	2,304,662	0.00024	0.00006	558.65	137.12